

Publications by Björn W. Schuller

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(IF): Journal Impact Factor according to Journal Citation Reports, Thomson Reuters.

Acceptance rates of satellite workshops may be subsumed with the main conference.

A) BOOKS

Books Authored (7):

- 1) S. Amiriparian, A. Bühlmeier, C. Henkelmann, M. Schmitt, B. Schuller, and O. Zeigermann, *Einstieg ins Machine Learning*. entwickler.press shortcuts, entwickler.press/S&S Media Group, May 2019. 70 pages
- 2) B. W. Schuller, *I Know What You're Thinking: The Making of Emotional Machines*. Princeton University Press, 2018. to appear
- 3) A. Balahur-Dobrescu, M. Taboada, and B. W. Schuller, *Computational Methods for Affect Detection from Natural Language*. Computational Social Sciences, Springer, 2017. to appear
- 4) B. Schuller, *Intelligent Audio Analysis*. Signals and Communication Technology, Springer, 2013. 350 pages
- 5) B. Schuller and A. Batliner, *Computational Paralinguistics: Emotion, Affect and Personality in Speech and Language Processing*. Wiley, November 2013
- 6) K. Kroschel, G. Rigoll, and B. Schuller, *Statistische Informationstechnik*. Berlin/Heidelberg: Springer, 5th ed., 2011
- 7) B. Schuller, *Mensch, Maschine, Emotion – Erkennung aus sprachlicher und manueller Interaktion*. Saarbrücken: VDM Verlag Dr Müller, 2007. 239 pages

Books Edited (5):

- 8) H. N. Costin, B. W. Schuller, and A. M. Florea, eds., *Recent Advances in Intelligent Assistive Technologies: Paradigms and Applications*. Intelligent Systems Reference Library, Springer, 2019. to appear
- 9) S. Oviatt, B. Schuller, P. Cohen, D. Sonntag, G. Potamianos, and A. Krüger, eds., *The Handbook of Multimodal-Multisensor Interfaces Volume 3 – Multimodal Language Processing, Software Tools, Commercial Applications and Emerging Directions*. No. 23 in ACM Books, ACM Books, Morgan & Claypool, July 2019. 789 pages
- 10) S. Oviatt, B. Schuller, P. Cohen, D. Sonntag, G. Potamianos, and A. Krüger, eds., *The Handbook of Multimodal-Multisensor Interfaces Volume 2 – Signal Processing, Architectures, and Detection of Emotion and Cognition*. No. 21 in ACM Books, ACM Books, Morgan & Claypool, October 2018. 531 pages
- 11) S. Oviatt, B. Schuller, P. Cohen, D. Sonntag, G. Potamianos, and A. Krüger, eds., *The Handbook of Multimodal-Multisensor Interfaces Volume 1 – Foundations, User Modeling, and Common Modality Combinations*. No. 14 in ACM Books, ACM Books, Morgan & Claypool, June 2017. 661 pages
- 12) S. D'Mello, A. Graesser, B. Schuller, and J.-C. Martin, eds., *Proceedings of the 4th International HUMAINE Association Conference on Affective Computing and Intelligent Interaction 2011, ACII 2011*, vol. 6974/6975, Part I / Part II of *Lecture Notes on Computer Science (LNCS)*, (Memphis, TN), HUMAINE Association, Springer, October 2011

Contributions to Books (47):

- 13) S. Amiriparian, M. Schmitt, S. Ottl, M. Gerczuk, and B. Schuller, "Deep Unsupervised Representation Learning for

Audio-based Medical Applications," in *Deep Learners and Deep Learner Descriptors for Medical Applications* (L. Nanni, S. Brahmam, S. Ghidoni, R. Brattin, and L. Jain, eds.), Intelligent Systems Reference Library (ISRL), Springer, 2019. 27 pages, invited contribution, to appear

- 14) S. Amiriparian, M. Schmitt, S. Hantke, V. Pandit, and B. Schuller, "Humans Inside: Cooperative Big Multimedia Data Mining," in *Innovations in Big Data Mining and Embedded Knowledge: Domestic and Social Context Challenges* (A. Esposito, A. M. Esposito, and L. C. Jain, eds.), vol. 159 of *Intelligent Systems Reference Library (ISRL)*, pp. 235–257, Springer, 2019. invited contribution
- 15) V. Karas and B. Schuller, "Enhancing Sentiment Analysis with Deep Learning: An Overview and Perspectives," in *Natural Language Processing for Global and Local Business* (F. Pinarbasi and M. N. Taskiran, eds.), IGI Global, 2019. to appear
- 16) V. Pandit, S. Amiriparian, M. Schmitt, K. Qian, J. Guo, S. Matsuoka, and B. Schuller, "Big Data Multimedia Mining: Feature Extraction facing Volume, Velocity, and Variety," in *Big Data Analytics for Large-Scale Multimedia Search* (S. Vrochidis, B. Huet, E. Y. Chang, and I. Kompatsiaris, eds.), ch. 3, pp. 61–83, Wiley, April 2019
- 17) M. Pateraki, K. Fysarakis, V. Sakkalis, G. Spanoudakis, I. Varlamis, S. Ioannidis, M. Maniadakis, M. Lourakis, N. Cummins, B. Schuller, E. Loutsetis, and D. Koutsouris, "Biosensors and Internet of Things in smart healthcare applications: challenges and opportunities," in *Wearable and Implantable Medical Devices* (N. Dey, A. Ashour, S. J. Fong, and C. Bhatt, eds.), vol. 7 of *Applications in ubiquitous sensing applications for healthcare*, ch. 2, pp. 25–53, Elsevier / Academic Press, 1 ed., 2019
- 18) P. Tzirakis, S. Zafeiriou, and B. Schuller, "Real-world automatic continuous affect recognition from audiovisual signals," in *Multi-modal Behavior Analysis in the Wild: Advances and Challenges* (X. Alameda-Pineda, E. Ricci, and N. Sebe, eds.), *Computer Vision and Pattern Recognition*, ch. 18, pp. 387–406, Elsevier, 2019
- 19) N. Cummins, J. Han, Z. Zhang, Z. Ren, and B. Schuller, "AI for Digital Health," in *Artificial Intelligence in Precision Health* (D. Barh, ed.), Elsevier, 2019. 10 pages, invited contribution, to appear
- 20) N. Cummins, F. Matcham, and B. Schuller, "Artificial Intelligence to aid the early detection of Mental Illness," in *Artificial Intelligence in Precision Health* (D. Barh, ed.), Elsevier, 2019. 10 pages, invited contribution, to appear
- 21) N. Cummins and B. Schuller, "Latest Advances in Computational Speech Analysis for Mobile Sensing," in *Mobile Sensing and Psychoinformatics* (H. Baumeister and C. Montag, eds.), *Studies in Neuroscience, Psychology and Behavioral Economics*, Berlin Heidelberg: Springer, 2019. 10 pages, invited contribution, to appear
- 22) M. Schmitt and B. Schuller, "Machine-based decoding of paralinguistic vocal features," in *The Oxford Handbook of Voice Perception* (S. Frühholz and P. Belin, eds.), ch. 43, pp. 719–742, Oxford University Press, 2019
- 23) D. Schuller and B. Schuller, "The Challenge of Automatic Eating Behaviour Analysis and Tracking," in *Recent Advances in Intelligent Assistive Technologies: Paradigms and Applications* (H. N. Costin, B. W. Schuller, and A. M. Florea, eds.), Intelligent Systems Reference Library, Springer, 2019. 30 pages, to appear
- 24) B. Schuller, "Multimodal User State and Trait Recognition: An Overview," in *The Handbook of Multimodal-Multisensor Interfaces Volume 2 – Signal Processing, Architectures, and Detection of Emotion and Cognition* (S. Oviatt, B. Schuller, P. Cohen, D. Sonntag, G. Potamianos, and A. Krüger, eds.), vol. 21 of *ACM Books*, ch. 5, pp. 131–165, ACM Books, Morgan & Claypool, 1 ed., October 2018
- 25) S. Bengio, L. Deng, L.-P. Morency, and B. Schuller, "Multidisciplinary Challenge Topic: Perspectives on Predictive Power of

- Multimodal Deep Learning: Surprises and Future Directions,” in *The Handbook of Multimodal-Multisensor Interfaces Volume 2 – Signal Processing, Architectures, and Detection of Emotion and Cognition* (S. Oviatt, B. Schuller, P. Cohen, D. Sonntag, G. Potamianos, and A. Krüger, eds.), vol. 21, ch. 14, pp. 457–472, ACM Books, Morgan & Claypool, 1 ed., October 2018
- 26) G. Keren, A. E.-D. Mousa, O. Pietquin, S. Zafeiriou, and B. Schuller, “Deep Learning for Multisensorial and Multimodal Interaction,” in *The Handbook of Multimodal-Multisensor Interfaces Volume 2 – Signal Processing, Architectures, and Detection of Emotion and Cognition* (S. Oviatt, B. Schuller, P. Cohen, D. Sonntag, G. Potamianos, and A. Krüger, eds.), vol. 21, ch. 4, pp. 99–128, ACM Books, Morgan & Claypool, October 2018
 - 27) E. Marchi, Y. Zhang, F. Eyben, F. Ringeval, and B. Schuller, “Autism and Speech, Language, and Emotion – a Survey,” in *Signal and Acoustic Modeling for Speech and Communication Disorders* (H. Patil, A. Neustein, and M. Kulshreshtha, eds.), vol. 5 of *Speech Technology and Text Mining in Medicine and Healthcare*, ch. 6, pp. 139–160, Berlin: De Gruyter, December 2018. invited contribution
 - 28) B. Schuller, A. Elkins, and K. Scherer, “Computational Analysis of Vocal Expression of Affect: Trends and Challenges,” in *Social Signal Processing* (J. Burgoon, N. Magnenat-Thalmann, M. Pantic, and A. Vinciarelli, eds.), ch. 6, pp. 56–68, Cambridge University Press, 2017
 - 29) H. Gunes and B. Schuller, “Automatic Analysis of Aesthetics: Human Beauty, Attractiveness, and Likability,” in *Social Signal Processing* (J. Burgoon, N. Magnenat-Thalmann, M. Pantic, and A. Vinciarelli, eds.), ch. 14, pp. 183–201, Cambridge University Press, 2017
 - 30) H. Gunes and B. Schuller, “Automatic Analysis of Social Emotions,” in *Social Signal Processing* (J. Burgoon, N. Magnenat-Thalmann, M. Pantic, and A. Vinciarelli, eds.), ch. 16, pp. 213–224, Cambridge University Press, 2017
 - 31) B. Schuller, “Acquisition of affect,” in *Emotions and Personality in Personalized Services* (M. Tkalcic, B. De Carolis, M. de Gemmis, A. Odić, and A. Ksir, eds.), Human-Computer Interaction Series, pp. 57–80, Springer, 1st ed., 2016
 - 32) F. Burkhardt, C. Pelachaud, B. Schuller, and E. Zovato, “EmotionML,” in *Multimodal Interaction with W3C Standards: Towards Natural User Interfaces to Everything* (D. Dahl, ed.), pp. 65–80, Berlin/Heidelberg: Springer, 2017
 - 33) B. Schuller, “Deep Learning our Everyday Emotions – A Short Overview,” in *Advances in Neural Networks: Computational and Theoretical Issues Emotional Expressions and Daily Cognitive Functions* (S. Bassis, A. Esposito, and F. C. Morabito, eds.), vol. 37 of *Smart Innovation Systems and Technologies*, pp. 339–346, Berlin Heidelberg: Springer, 2015. invited contribution
 - 34) B. Schuller and F. Wenginger, “Human Affect Recognition – Audio-Based Methods,” in *Wiley Encyclopedia of Electrical and Electronics Engineering* (J. G. Webster, ed.), pp. 1–13, New York: John Wiley & Sons, 2015. invited contribution
 - 35) B. Schuller, “Multimodal Affect Databases -? Collection, Challenges & Chances,” in *Handbook of Affective Computing* (R. A. Calvo, S. D’Mello, J. Gratch, and A. Kappas, eds.), Oxford Library of Psychology, ch. 23, pp. 323–333, Oxford University Press, 2015. invited contribution
 - 36) B. Schuller, “Emotion Modeling via Speech Content and Prosody – in Computer Games and Elsewhere,” in *Emotion in Games – Theory and Practice* (G. Yannakakis and K. Karpouzis, eds.), vol. 4 of *Socio-Affective Computing*, ch. 5, pp. 85–102, Springer, 2015. invited contribution
 - 37) R. Brückner and B. Schuller, “Being at Odds? – Deep and Hierarchical Neural Networks for Classification and Regression of Conflict in Speech,” in *Conflict and Multimodal Communication – Social research and machine intelligence* (F. D’Errico, I. Poggi, A. Vinciarelli, and L. Vincze, eds.), Computational Social Sciences, pp. 403–429, Berlin/Heidelberg: Springer, 2015. invited contribution
 - 38) G. Castellano, H. Gunes, C. Peters, and B. Schuller, “Multimodal Affect Detection for Naturalistic Human-Computer and Human-Robot Interactions,” in *Handbook of Affective Computing* (R. A. Calvo, S. D’Mello, J. Gratch, and A. Kappas, eds.), Oxford Library of Psychology, ch. 17, pp. 246–260, Oxford University Press, 2015. invited contribution
 - 39) F. Wenginger, M. Wöllmer, and B. Schuller, “Emotion Recognition in Naturalistic Speech and Language – A Survey,” in *Emotion Recognition: A Pattern Analysis Approach* (A. Konar and A. Chakraborty, eds.), ch. 10, pp. 237–267, Wiley, 1st ed., December 2015
 - 40) E. Marchi, F. Ringeval, and B. Schuller, “Voice-enabled assistive robots for handling autism spectrum conditions: an examination of the role of prosody,” in *Speech and Automata in Health Care (Speech Technology and Text Mining in Medicine and Healthcare)* (A. Neustein, ed.), pp. 207–236, Boston/Berlin/Munich: De Gruyter, 2014. invited contribution
 - 41) B. Schuller, “Prosody and Phonemes: On the Influence of Speaking Style,” in *Prosody and Iconicity* (S. Hancil and D. Hirst, eds.), ch. 13, pp. 233–250, Benjamins, May 2013
 - 42) B. Schuller and F. Wenginger, “Ten Recent Trends in Computational Paralinguistics,” in *4th COST 2102 International Training School on Cognitive Behavioural Systems* (A. Esposito, A. Vinciarelli, R. Hoffmann, and V. C. Müller, eds.), vol. 7403/2012 of *Lecture Notes on Computer Science (LNCS)* 7403, pp. 35–49, Berlin Heidelberg: Springer, 2012
 - 43) R. Rotili, E. Principi, M. Wöllmer, S. Squartini, and B. Schuller, “Conversational Speech Recognition In Non-Stationary Reverberated Environments,” in *4th COST 2102 International Training School on Cognitive Behavioural Systems* (A. Esposito, A. Vinciarelli, R. Hoffmann, and V. C. Müller, eds.), vol. 7403/2012 of *Lecture Notes on Computer Science (LNCS)*, pp. 50–59, Berlin Heidelberg: Springer, 2012
 - 44) R. Rotili, E. Principi, S. Squartini, and B. Schuller, “Real-Time Speech Recognition in a Multi-Talker Reverberated Acoustic Scenario,” in *Advanced Intelligent Computing Theories and Applications. With Aspects of Artificial Intelligence. Proc. Seventh International Conference on Intelligent Computing (ICIC 2011)*, vol. 6839 of *Lecture Notes on Computer Science (LNCS)*, pp. 379–386, Springer, 2012
 - 45) B. Schuller, “Voice and Speech Analysis in Search of States and Traits,” in *Computer Analysis of Human Behavior* (A. A. Salah and T. Gevers, eds.), Advances in Pattern Recognition, ch. 9, pp. 227–253, Springer, 2011
 - 46) B. Schuller and T. Knaup, “Learning and Knowledge-based Sentiment Analysis in Movie Review Key Excerpts,” in *Toward Autonomous, Adaptive, and Context-Aware Multimodal Interfaces: Theoretical and Practical Issues: Third COST 2102 International Training School, Caserta, Italy, March 15-19, 2010, Revised Selected Papers* (A. Esposito, A. M. Esposito, R. Martone, V. Müller, and G. Scarpetta, eds.), vol. 6456/2010 of *Lecture Notes on Computer Science (LNCS)*, pp. 448–472, Heidelberg: Springer, 1st ed., 2011
 - 47) B. Schuller, M. Wöllmer, F. Eyben, and G. Rigoll, “Retrieval of Paralinguistic Information in Broadcasts,” in *Multimedia Information Extraction: Advances in video, audio, and imagery extraction for search, data mining, surveillance, and authoring* (M. T. Maybury, ed.), ch. 17, pp. 273–288, Wiley, IEEE Computer Society Press, 2011
 - 48) D. Arsić and B. Schuller, “Real Time Person Tracking and Behavior Interpretation in Multi Camera Scenarios Applying Homography and Coupled HMMs,” in *Analysis of Verbal and Nonverbal Communication and Enactment: The Processing Issues, COST 2102 International Conference, Budapest, Hungary, September 7-10, 2010, Revised Selected Papers* (A. Esposito, A. Vinciarelli, K. Vicsi, C. Pelachaud, and A. Nijholt, eds.), vol. 6800/2011 of *Lecture Notes on Computer Science (LNCS)*, pp. 1–18, Heidelberg: Springer, 2011

- 49) B. Schuller, F. Dibiasi, F. Eyben, and G. Rigoll, "Music Thumbnailing Incorporating Harmony- and Rhythm Structure," in *Adaptive Multimedia Retrieval: 6th International Workshop, AMR 2008, Berlin, Germany, June 26-27, 2008. Revised Selected Papers* (M. Detyniecki, U. Leiner, and A. Nürnberger, eds.), vol. 5811/2010 of *Lecture Notes in Computer Science (LNCS)*, pp. 78–88, Berlin/Heidelberg: Springer, 2010
- 50) A. Batliner, B. Schuller, D. Seppi, S. Steidl, L. Devillers, L. Vidrascu, T. Vogt, V. Aharonson, and N. Amir, "The Automatic Recognition of Emotions in Speech," in *Emotion-Oriented Systems: The HUMAINE Handbook* (R. Cowie, P. Petta, and C. Pelachaud, eds.), Cognitive Technologies, pp. 71–99, Springer, 1st ed., 2010
- 51) M. Wöllmer, F. Eyben, A. Graves, B. Schuller, and G. Rigoll, "Improving Keyword Spotting with a Tandem BLSTM-DBN Architecture," in *Advances in Non-Linear Speech Processing: International Conference on Nonlinear Speech Processing, NO-LISP 2009, Vic, Spain, June 25-27, 2009, Revised Selected Papers* (J. Sole-Casals and V. Zaiats, eds.), vol. 5933/2010 of *Lecture Notes on Computer Science (LNCS)*, pp. 68–75, Springer, 2010
- 52) B. Schuller, M. Wöllmer, F. Eyben, and G. Rigoll, "Spectral or Voice Quality? Feature Type Relevance for the Discrimination of Emotion Pairs," in *The Role of Prosody in Affective Speech* (S. Hancil, ed.), vol. 97 of *Linguistic Insights, Studies in Language and Communication*, pp. 285–307, Peter Lang Publishing Group, 2009
- 53) B. Schuller, F. Eyben, and G. Rigoll, "Static and Dynamic Modelling for the Recognition of Non-Verbal Vocalisations in Conversational Speech," in *Perception in Multimodal Dialogue Systems: 4th IEEE Tutorial and Research Workshop on Perception and Interactive Technologies for Speech-Based Systems, PIT 2008, Kloster Irsee, Germany, June 16-18, 2008, Proceedings* (E. André, L. Dybkjaer, H. Neumann, R. Pieraccini, and M. Weber, eds.), vol. 5078/2008 of *Lecture Notes on Computer Science (LNCS)*, pp. 99–110, Berlin/Heidelberg: Springer, 2008
- 54) B. Schuller, M. Wöllmer, T. Moosmayr, G. Ruske, and G. Rigoll, "Switching Linear Dynamic Models for Noise Robust In-Car Speech Recognition," in *Pattern Recognition: 30th DAGM Symposium Munich, Germany, June 10-13, 2008 Proceedings* (G. Rigoll, ed.), vol. 5096 of *Lecture Notes on Computer Science (LNCS)*, pp. 244–253, Berlin/Heidelberg: Springer, 2008. (acceptance rate: 39%)
- 55) B. Vlasenko, B. Schuller, A. Wendemuth, and G. Rigoll, "On the Influence of Phonetic Content Variation for Acoustic Emotion Recognition," in *Perception in Multimodal Dialogue Systems: 4th IEEE Tutorial and Research Workshop on Perception and Interactive Technologies for Speech-Based Systems, PIT 2008, Kloster Irsee, Germany, June 16-18, 2008, Proceedings* (E. André, L. Dybkjaer, H. Neumann, R. Pieraccini, and M. Weber, eds.), vol. 5078/2008 of *Lecture Notes on Computer Science (LNCS)*, pp. 217–220, Berlin/Heidelberg: Springer, 2008
- 56) M. Grimm, K. Kroschel, H. Harris, C. Nass, B. Schuller, G. Rigoll, and T. Moosmayr, "On the Necessity and Feasibility of Detecting a Driver's Emotional State While Driving," in *Affective Computing and Intelligent Interaction: Second International Conference, ACII 2007, Lisbon, Portugal, September 12-14, 2007, Proceedings* (A. Paiva, R. W. Picard, and R. Prada, eds.), vol. 4738/2007 of *Lecture Notes on Computer Science (LNCS)*, pp. 126–138, Berlin/Heidelberg: Springer, 2007
- 57) B. Vlasenko, B. Schuller, A. Wendemuth, and G. Rigoll, "Frame vs. Turn-Level: Emotion Recognition from Speech Considering Static and Dynamic Processing," in *Affective Computing and Intelligent Interaction: Second International Conference, ACII 2007, Lisbon, Portugal, September 12-14, 2007, Proceedings* (A. Paiva, R. W. Picard, and R. Prada, eds.), vol. 4738/2007 of *Lecture Notes on Computer Science (LNCS)*, pp. 139–147, Berlin/Heidelberg: Springer, 2007
- 58) M. Schröder, L. Devillers, K. Karpouzis, J.-C. Martin, C. Pelachaud, C. Peter, H. Pirker, B. Schuller, J. Tao, and I. Wilson, "What should a generic emotion markup language be able to represent?," in *Affective Computing and Intelligent Interaction: Second International Conference, ACII 2007, Lisbon, Portugal, September 12-14, 2007, Proceedings* (A. Paiva, R. W. Picard, and R. Prada, eds.), vol. 4738/2007 of *Lecture Notes on Computer Science (LNCS)*, pp. 440–451, Berlin/Heidelberg: Springer, 2007
- 59) B. Schuller, M. Ablameier, R. Müller, S. Reifinger, T. Poitschke, and G. Rigoll, "Speech Communication and Multimodal Interfaces," in *Advanced Man Machine Interaction* (K.-F. Kraiss, ed.), Signals and Communication Technology, ch. 4, pp. 141–190, Berlin/Heidelberg: Springer, 2006

B) REFEREED JOURNAL PAPERS (152)

- 60) B. Schuller, "Micro-Expressions – A Chance for Computers to Beat Humans at Detecting Hidden Emotions?," *IEEE Computer Magazine*, vol. 52, pp. 4–5, February 2019. (IF: 1.940 (2017))
- 61) B. Schuller, "Responding to Uncertainty in Emotion Recognition," *Journal of Information, Communication & Ethics in Society*, vol. 17, no. 2, 2019. 4 pages, invited contribution, to appear
- 62) S. Amiriparian, N. Cummins, M. Gerczuk, S. Pugachevskiy, S. Ottl, and B. Schuller, "'Are You Playing a Shooter Again?'" Deep Representation Learning for Audio-based Video Game Genre Recognition," *IEEE Transactions on Games*, vol. 11, 2019. 11 pages, to appear
- 63) J. Deng, B. Schuller, F. Eyben, D. Schuller, Z. Zhang, H. Francois, and E. Oh, "Exploiting time-frequency patterns with LSTM RNNs for low-bitrate audio restoration," *Neural Computing and Applications, Special Issue on Deep Learning for Music and Audio*, vol. 31, 2019. 13 pages, to appear (IF: 4.213 (2017))
- 64) K. Grabowski, A. Rynkiewicz, A. Lassalle, S. Baron-Cohen, B. Schuller, N. Cummins, A. E. Baird, J. Podgórska-Bednarz, A. Pieniazek, and I. Lucka, "Emotional expression in psychiatric conditions – new technology for clinicians," *Psychiatry and Clinical Neurosciences*, vol. 73, no. 2, pp. 50–62, 2019. (IF: 3.199 (2017))
- 65) J. Han, Z. Zhang, N. Cummins, and B. Schuller, "Adversarial Training in Affective Computing and Sentiment Analysis: Recent Advances and Perspectives," *IEEE Computational Intelligence Magazine, Special Issue on Computational Intelligence for Affective Computing and Sentiment Analysis*, vol. 14, pp. 68–81, May 2019. (IF: 6.611 (2017))
- 66) J. Han, Z. Zhang, Z. Ren, and B. Schuller, "Exploring Perception Uncertainty for Emotion Recognition in Dyadic Conversation and Music Listening," *Cognitive Computation, Special Issue on Affect Recognition in Multimodal Language*, vol. 11, 2019. 10 pages, to appear (IF: 4.287 (2018))
- 67) J. Han, Z. Zhang, Z. Ren, and B. Schuller, "EmoBed: Strengthening Monomodal Emotion Recognition via Training with Crossmodal Emotion Embeddings," *IEEE Transactions on Affective Computing*, vol. 10, 2019. 12 pages, to appear (IF: 6.288 (2018))
- 68) C. Janott, M. Schmitt, C. Heiser, W. Hohenhorst, M. Herzog, M. C. Llatas, W. Hemmert, and B. Schuller, "VOTE versus ACLTE: Vergleich zweier Schnarchgeräuschklassifikationen mit Methoden des maschinellen Lernens," *HNO*, vol. 24, 2019. 9 pages, to appear (IF: 0.893 (2017))
- 69) G. Keren, S. Sabato, and B. Schuller, "Analysis of Loss Functions for Fast Single-Class Classification," *Knowledge and Information Systems*, vol. 59, 2019. 12 pages, invited as one of best papers from ICDM 2018, to appear (IF: 2.247 (2017))
- 70) D. Kollias, P. Tzirakis, M. A. Nicolaou, A. Papaioannou, G. Zhao, B. Schuller, I. Kotsia, and S. Zafeiriou, "Deep Affect Prediction in-the-Wild: Aff-Wild Database and Challenge, Deep Architectures, and Beyond," *International Journal of Computer Vision*, vol. 127, pp. 907–929, June 2019. (IF: 11.541 (2017))

- 71) J. Kossaifi, R. Walecki, Y. Panagakis, J. Shen, M. Schmitt, F. Ringeval, J. Han, V. Pandit, B. Schuller, K. Star, E. Hajjiev, and M. Pantic, "SEWA DB: A Rich Database for Audio-Visual Emotion and Sentiment Research in the Wild," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 41, 2019. 17 pages, to appear (IF: 17.730 (2018))
- 72) E. Parada-Cabaleiro, G. Costantini, A. Batliner, M. Schmitt, and B. W. Schuller, "DEMoS – An Italian Emotional Speech Corpus – Elicitation methods, machine learning, and perception," *Language Resources and Evaluation*, vol. 53, 2019. 39 pages, to appear (IF: 0.656 (2017))
- 73) F. Pokorný, K. Bartl-Pokorný, D. Marschik, P. Marschik, D. Schuller, and B. Schuller, "Efficient Preverbal Data Collection and Representation of Typical and Atypical Development," *Journal of Nonverbal Behavior, Special Issue on Nonverbal Communication and Early Development*, 2019. to appear (IF: 1.595 (2017))
- 74) F. B. Pokorný, M. Fiser, F. Graf, P. B. Marschik, and B. W. Schuller, "Sound and the city: Current perspectives on acoustic geo-sensing in urban environment," *Acta Acustica united with Acustica*, vol. 105, 2019. 23 pages, to appear (IF: 1.037 (2018))
- 75) K. Qian, M. Schmitt, C. Janott, Z. Zhang, C. Heiser, W. Hohenhorst, M. Herzog, W. Hemmert, and B. Schuller, "A Bag of Wavelet Features for Snore Sound Classification," *Annals of Biomedical Engineering*, vol. 47, no. 4, pp. 1000–1011, 2019. (IF: 3.405 (2017))
- 76) D. Schuller and B. Schuller, "A Review on Five Recent and Near-Future Developments in Computational Processing of Emotion in the Human Voice," *Emotion Review, Special Issue on Emotions and the Voice*, vol. 11, 2019. 10 pages, invited contribution, to appear (IF: 3.780 (2017))
- 77) Y. Xie, R. Liang, Z. Liang, C. Huang, C. Zou, and B. Schuller, "Speech Emotion Classification Using Attention-based LSTM," *IEEE/ACM Transactions on Audio, Speech and Language Processing*, vol. 27, pp. 1675–1685, November 2019. (IF: 3.531 (2018))
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- 79) Y. Zhang, F. Weninger, A. Michi, J. Wagner, E. André, and B. Schuller, "A Generic Human-Machine Annotation Framework Using Dynamic Cooperative Learning with a Deep Learning-based Confidence Measure," *IEEE Transactions on Cybernetics*, 2019. 11 pages, to appear (IF: 10.387 (2018))
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- 322) J. Deng, F. Eyben, B. Schuller, and F. Burkhardt, “Deep Neural Networks for Anger Detection from Real Life Speech Data,” in *Proc. 2nd International Workshop on Automatic Sentiment Analysis in the Wild (WASA 2017) held in conjunction with the 7th biannual Conference on Affective Computing and Intelligent Interaction (ACII 2017)*, (San Antonio, TX), pp. 1–6, AAAC, IEEE, October 2017
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- 325) M. Freitag, S. Amiriparian, N. Cummins, M. Gerczuk, and B. Schuller, “An ‘End-to-Evolution’ Hybrid Approach for Snore Sound Classification,” in *Proceedings INTERSPEECH 2017, 18th Annual Conference of the International Speech Communication Association*, (Stockholm, Sweden), pp. 3507–3511, ISCA, ISCA, August 2017. (acceptance rate: 51 %)
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- 330) G. Hagerer, V. Pandit, F. Eyben, and B. Schuller, “Enhancing LSTM RNN-based Speech Overlap Detection by Artificially Mixed Data,” in *Proceedings AES 56th International Conference on Semantic Audio*, (Erlangen, Germany), pp. 1–8, AES, Audio Engineering Society, June 2017
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- 337) G. Keren, S. Sabato, and B. Schuller, “Tunable Sensitivity to Large Errors in Neural Network Training,” in *Proceedings of the 31st AAAI Conference on Artificial Intelligence, AAAI 17*, (San Francisco, CA), pp. 2087–2093, AAAI, February 2017. (acceptance rate: 25 %)
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- C. Werner, "A Machine Learning Based System for the Automatic Evaluation of Aphasia Speech," in *Proc. 2017 IEEE 19th International Conference on e-Health Networking, Applications and Services (Healthcom)*, (Dalian, China), pp. 1–6, IEEE, IEEE, October 2017
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- 351) R. Sabathé, E. Coutinho, and B. Schuller, "Deep Recurrent Music Writer: Memory-enhanced Variational Autoencoder-based Musical Score Composition and an Objective Measure," in *Proceedings 30th International Joint Conference on Neural Networks (IJCNN)*, (Anchorage, AK), pp. 3467–3474, INNS/IEEE, IEEE, May 2017. (acceptance rate: 67 %)
- 352) H. Sagha, M. Schmitt, F. Povolny, A. Giefer, and B. Schuller, "Predicting the popularity of a talk-show based on its emotional speech content before publication," in *Proceedings 3rd International Workshop on Affective Social Multimedia Computing, INTERSPEECH 2017 Satellite Workshop, ASMMC 2017*, (Stockholm, Sweden), ISCA, ISCA, August 2017. 5 pages
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- 360) H. S. O. Strömfelt, Y. Zhang, and B. Schuller, "Emotion-Augmented Machine Learning: Overview of an Emerging Do-

- main,” in *Proc. 7th biannual Conference on Affective Computing and Intelligent Interaction (ACII 2017)*, (San Antonio, TX), pp. 305–312, AAAC, IEEE, October 2017. (acceptance rate oral: 27 %)
- 361) Y. Zhang, Y. Liu, F. Weninger, and B. Schuller, “Multi-Task Deep Neural Network with Shared Hidden Layers: Breaking Down the Wall between Emotion Representations,” in *Proceedings 42nd IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2017*, (New Orleans, LA), pp. 4990–4994, IEEE, IEEE, March 2017. (acceptance rate: 49 %)
- 362) Z. Zhang, F. Weninger, M. Wöllmer, J. Han, and B. Schuller, “Towards Intoxicated Speech Recognition,” in *Proceedings 30th International Joint Conference on Neural Networks (IJCNN)*, (Anchorage, AK), pp. 1555–1559, INNS/IEEE, IEEE, May 2017. (acceptance rate: 67 %)
- 363) B. Schuller, “7 Essential Principles to Make Multimodal Sentiment Analysis Work in the Wild,” in *Proceedings of the 4th Workshop on Sentiment Analysis where AI meets Psychology (SAIP 2016)*, satellite of the 25th International Joint Conference on Artificial Intelligence, *IJCAI 2016* (S. Bandyopadhyay, D. Das, E. Cambria, and B. G. Patra, eds.), vol. 1619, (New York City, NY), p. 1, IJCAI/AAAI, CEUR, July 2016. invited contribution
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- 367) I. Abdić, L. Fridman, D. McDuff, E. Marchi, B. Reimer, and B. Schuller, “Driver Frustration Detection From Audio and Video,” in *Proceedings of the 25th International Joint Conference on Artificial Intelligence, IJCAI 2016*, (New York City, NY), pp. 1354–1360, IJCAI/AAAI, July 2016. (acceptance rate: 25 %)
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- 369) I. Abdić, L. Fridman, D. McDuff, E. Marchi, B. Reimer, and B. Schuller, “Driver Frustration Detection From Audio and Video (Extended Abstract),” in *KI 2016: Advances in Artificial Intelligence 39th Annual German Conference on AI* (G. Friedrich, M. Helmert, and F. Wotawa, eds.), vol. LNCS Volume 9904/2016, (Klagenfurt, Austria), pp. 237–243, GfI / ÖGAI, Springer, September 2016. (acceptance rate: 45 %)
- 370) S. Amiriparian, J. Pohjalainen, E. Marchi, S. Pugachevskiy, and B. Schuller, “Is deception emotional? An emotion-driven predictive approach,” in *Proceedings INTERSPEECH 2016, 17th Annual Conference of the International Speech Communication Association*, (San Francisco, CA), pp. 2011–2015, ISCA, ISCA, September 2016. nominated for best student paper award (12 nominations for 3 awards, acceptance rate overall conference: 50 %)
- 371) E. Cambria, S. Poria, R. Bajpai, and B. Schuller, “SenticNet4: A Semantic Resource for Sentiment Analysis Based on Conceptual Primitives,” in *Proceedings of the 26th International Conference on Computational Linguistics, COLING*, (Osaka, Japan), pp. 2666–2677, ICCL, ANLP, December 2016
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- 374) B. Dong, Z. Zhang, and B. Schuller, “Empirical Mode Decomposition: A Data-Enrichment Perspective on Speech Emotion Recognition,” in *Proceedings of the 6th International Workshop on Emotion and Sentiment Analysis (ESA 2016)*, satellite of the 10th Language Resources and Evaluation Conference (LREC 2016) (J. F. Sánchez-Rada and B. Schuller, eds.), (Portoroz, Slovenia), pp. 71–75, ELRA, ELRA, May 2016. (acceptance rate: 74 %)
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- 377) S. Hantke, E. Marchi, and B. Schuller, “Introducing the Weighted Trustability Evaluator for Crowdsourcing Exemplified by Speaker Likability Classification,” in *Proceedings 10th Language Resources and Evaluation Conference (LREC 2016)*, (Portoroz, Slovenia), pp. 2156–2161, ELRA, ELRA, May 2016
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- 380) Y. Li, J. Tao, B. Schuller, S. Shan, D. Jiang, and J. Jia, “MEC 2016: The Multimodal Emotion Recognition Challenge of CCPR 2016,” in *Proceedings of the 7th Chinese Conference on Pattern Recognition, CCPR*, (Chengdu, P.R. China), pp. 667–678, Springer, November 2016
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- 383) E. Marchi, D. Tonelli, X. Xu, F. Ringeval, J. Deng, S. Squartini, and B. Schuller, “The UP System for the 2016 DCASE Challenge using Deep Recurrent Neural Network and Multiscale Kernel Subspace Learning,” in *Proceedings of the Detection and Classification of Acoustic Scenes and Events 2016 IEEE AASP Challenge Workshop (DCASE 2016), satellite to EUSIPCO 2016*, (Budapest, Hungary), EUSIPCO, IEEE, September 2016. 1 page
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- 385) F. B. Pokorny, P. B. Marschik, C. Einspieler, and B. W. Schuller, “Does She Speak RTT? Towards an Earlier Identification of Rett Syndrome Through Intelligent Pre-linguistic Vocalisation Analysis,” in *Proceedings INTERSPEECH 2016, 17th Annual Conference of the International Speech Communication Association*, (San Francisco, CA), pp. 1953–1957, ISCA, ISCA, September 2016. (acceptance rate: 50 %)
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- 388) M. Pantic, V. Evers, M. Deisenroth, L. Merino, and B. Schuller, “Social and Affective Robotics Tutorial,” in *Proceedings of the 24th ACM International Conference on Multimedia, MM 2016*, (Amsterdam, The Netherlands), pp. 1477–1478, ACM, ACM, October 2016. (acceptance rate short paper: 30 %)
- 389) J. Pohjalainen, F. Ringeval, Z. Zhang, and B. Schuller, “Spectral and Cepstral Audio Noise Reduction Techniques in Speech Emotion Recognition,” in *Proceedings of the 24th ACM International Conference on Multimedia, MM 2016*, (Amsterdam, The Netherlands), pp. 670–674, ACM, ACM, October 2016. (acceptance rate short paper: 30 %)
- 390) F. Ringeval, E. Marchi, C. Grossard, J. Xavier, M. Chetouani, D. Cohen, and B. Schuller, “Automatic Analysis of Typical and Atypical Encoding of Spontaneous Emotion in the Voice of Children,” in *Proceedings INTERSPEECH 2016, 17th Annual Conference of the International Speech Communication Association*, (San Francisco, CA), pp. 1210–1214, ISCA, ISCA, September 2016. (acceptance rate: 50 %)
- 391) A. Rynkiewicz, B. Schuller, E. Marchi, S. Piana, A. Camurri, A. Lassalle, and S. Baron-Cohen, “An Investigation of the ‘Female Camouflage Effect’ in Autism Using a New Computerized Test Showing Sex/Gender Differences during ADOS-2,” in *Proceedings 15th Annual International Meeting For Autism Research (IMFAR 2016)*, (Baltimore, MD), International Society for Autism Research (INSAR), INSAR, May 2016. 1 page
- 392) H. Sagha, J. Deng, M. Gavryukova, J. Han, and B. Schuller, “Cross Linguual Speech Emotion Recognition using Canonical Correlation Analysis on Principal Component Subspace,” in *Proceedings 41st IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2016*, (Shanghai, P.R. China), pp. 5800–5804, IEEE, IEEE, March 2016. (acceptance rate: 45 %)
- 393) H. Sagha, P. Matejka, M. Gavryukova, F. Povolny, E. Marchi, and B. Schuller, “Enhancing multilingual recognition of emotion in speech by language identification,” in *Proceedings INTERSPEECH 2016, 17th Annual Conference of the International Speech Communication Association*, (San Francisco, CA), pp. 2949–2953, ISCA, ISCA, September 2016. (acceptance rate: 50 %)
- 394) J. F. Sánchez-Rada, B. Schuller, V. Patti, P. Buitelaar, G. Vulcu, F. Burkhardt, C. Clavel, M. Petychakis, and C. A. Iglesias, “Towards a Common Linked Data Model for Sentiment and Emotion Analysis,” in *Proceedings of the 6th International Workshop on Emotion and Sentiment Analysis (ESA 2016), satellite of the 10th Language Resources and Evaluation Conference (LREC 2016)* (J. F. Sánchez-Rada and B. Schuller, eds.), (Portoroz, Slovenia), pp. 48–54, ELRA, ELRA, May 2016. (acceptance rate: 42 % for long papers)
- 395) M. Schmitt, C. Janott, V. Pandit, K. Qian, C. Heiser, W. Hemmert, and B. Schuller, “A Bag-of-Audio-Words Approach for Snore Sounds’ Excitation Localisation,” in *Proceedings 12th ITG Conference on Speech Communication*, vol. 267 of *ITG-Fachbericht*, (Paderborn, Germany), pp. 230–234, ITG/VDE, IEEE/VDE, October 2016. nominated for best student paper award (4 nominations for 2 awards)
- 396) M. Schmitt, F. Ringeval, and B. Schuller, “At the Border of Acoustics and Linguistics: Bag-of-Audio-Words for the Recognition of Emotions in Speech,” in *Proceedings INTERSPEECH 2016, 17th Annual Conference of the International Speech Communication Association*, (San Francisco, CA), pp. 495–499, ISCA, ISCA, September 2016. (acceptance rate: 50 %)
- 397) M. Schmitt, E. Marchi, F. Ringeval, and B. Schuller, “Towards Cross-lingual Automatic Diagnosis of Autism Spectrum Condition in Children’s Voices,” in *Proceedings 12th ITG Conference on Speech Communication*, vol. 267 of *ITG-Fachbericht*, (Paderborn, Germany), pp. 264–268, ITG/VDE, IEEE/VDE, October 2016
- 398) M. Telespan and B. Schuller, “Audio Watermarking Based on Empirical Mode Decomposition and Beat Detection,” in *Proceedings 41st IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2016*, (Shanghai, P.R. China), pp. 2124–2128, IEEE, IEEE, March 2016. (acceptance rate: 45 %)
- 399) G. Trigeorgis, F. Ringeval, R. Brückner, E. Marchi, M. Nicolaou, B. Schuller, and S. Zafeiriou, “Adieu Features? End-to-End Speech Emotion Recognition using a Deep Convolutional Recurrent Network,” in *Proceedings 41st IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2016*, (Shanghai, P.R. China), pp. 5200–5204, IEEE, IEEE, March 2016. winner of the IEEE Spoken Language Processing Student Travel Grant 2016 (acceptance rate: 45 %)
- 400) G. Trigeorgis, M. A. Nicolaou, B. Schuller, and S. Zafeiriou, “Deep Canonical Time Warping,” in *Proceedings IEEE International Conference on Computer Vision and Pattern Recognition, CVPR 2016*, (Las Vegas, NV), pp. 5110–5118, IEEE, IEEE, June 2016. (acceptance rate: ~25 %)
- 401) M. Valstar, J. Gratch, B. Schuller, F. Ringeval, D. Lalanne, M. Torres Torres, S. Scherer, G. Stratou, R. Cowie, and M. Pantic, “AVEC 2016: Depression, Mood, and Emotion Recognition Workshop and Challenge,” in *Proceedings of the 6th Interna-*

- tional Workshop on Audio/Visual Emotion Challenge, AVEC'16, co-located with the 24th ACM International Conference on Multimedia, MM 2016* (M. Valstar, J. Gratch, B. Schuller, F. Ringeval, R. Cowie, and M. Pantic, eds.), (Amsterdam, The Netherlands), pp. 3–10, ACM, ACM, October 2016
- 402) M. Valstar, C. Pelachaud, D. Heylen, A. Cafaro, S. Dermouche, A. Ghitulescu, E. André, T. Bauer, J. Wagner, L. Durieu, M. Aylett, P. Blaise, E. Coutinho, B. Schuller, Y. Zhang, M. Theune, and J. van Waterschoot, “Ask Alice; an Artificial Retrieval of Information Agent,” in *Proceedings of the 18th ACM International Conference on Multimodal Interaction, ICMI* (L.-P. Morency, C. Busso, and C. Pelachaud, eds.), (Tokyo, Japan), pp. 419–420, ACM, ACM, November 2016
- 403) M. Valstar, J. Gratch, B. Schuller, F. Ringeval, R. Cowie, and M. Pantic, “Summary for AVEC 2016: Depression, Mood, and Emotion Recognition Workshop and Challenge,” in *Proceedings of the 24th ACM International Conference on Multimedia, MM 2016*, (Amsterdam, The Netherlands), pp. 1483–1484, ACM, ACM, October 2016. (acceptance rate short paper: 30 %)
- 404) B. Vlasenko, B. Schuller, and A. Wendemuth, “Tendencies Regarding the Effect of Emotional Intensity in Inter Corpus Phoneme-Level Speech Emotion Modelling,” in *Proceedings 2016 IEEE International Workshop on Machine Learning for Signal Processing, MLSP*, (Salerno, Italy), pp. 1–6, IEEE, IEEE, September 2016
- 405) R. Wegener, C. Kohlschein, S. Jeschke, and B. Schuller, “Automatic Detection of Textual Triggers of Reader Emotion in Short Stories,” in *Proceedings of the 6th International Workshop on Emotion and Sentiment Analysis (ESA 2016), satellite of the 10th Language Resources and Evaluation Conference (LREC 2016)* (J. F. Sánchez-Rada and B. Schuller, eds.), (Portoroz, Slovenia), pp. 80–84, ELRA, ELRA, May 2016. (acceptance rate: 74 %)
- 406) F. Weninger, F. Ringeval, E. Marchi, and B. Schuller, “Discriminatively trained recurrent neural networks for continuous dimensional emotion recognition from audio,” in *Proceedings of the 25th International Joint Conference on Artificial Intelligence, IJCAI 2016*, (New York City, NY), pp. 2196–2202, IJCAI/AAAI, July 2016. (acceptance rate: 25 %)
- 407) F. Weninger, F. Ringeval, E. Marchi, and B. Schuller, “Discriminatively Trained Recurrent Neural Networks for Continuous Dimensional Emotion Recognition from Audio (Extended Abstract),” in *KI 2016: Advances in Artificial Intelligence 39th Annual German Conference on AI* (G. Friedrich, M. Helmert, and F. Wotawa, eds.), vol. LNCS Volume 9904/2016. (Klagenfurt, Austria), pp. 310–315, GfI / ÖGAI, Springer, September 2016. (acceptance rate: 45 %)
- 408) X. Xu, J. Deng, M. Gavryukova, Z. Zhang, L. Zhao, and B. Schuller, “Multiscale Kernel Locally Penalised Discriminant Analysis Exemplified by Emotion Recognition in Speech,” in *Proceedings of the 18th ACM International Conference on Multimodal Interaction, ICMI* (L.-P. Morency, C. Busso, and C. Pelachaud, eds.), (Tokyo, Japan), pp. 233–237, ACM, ACM, November 2016
- 409) Z. Zhang, F. Ringeval, B. Dong, E. Coutinho, E. Marchi, and B. Schuller, “Enhanced Semi-Supervised Learning for Multimodal Emotion Recognition,” in *Proceedings 41st IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2016*, (Shanghai, P.R. China), pp. 5185–5189, IEEE, IEEE, March 2016. (acceptance rate: 45 %)
- 410) Z. Zhang, F. Ringeval, J. Han, J. Deng, E. Marchi, and B. Schuller, “Facing Realism in Spontaneous Emotion Recognition from Speech: Feature Enhancement by Autoencoder with LSTM Neural Networks,” in *Proceedings INTERSPEECH 2016, 17th Annual Conference of the International Speech Communication Association*, (San Francisco, CA), pp. 3593–3597, ISCA, ISCA, September 2016. (acceptance rate: 50 %)
- 411) Y. Zhang, F. Weninger, A. Batliner, F. Hönig, and B. Schuller, “Language Proficiency Assessment of English L2 Speakers Based on Joint Analysis of Prosody and Native Language,” in *Proceedings of the 18th ACM International Conference on Multimodal Interaction, ICMI* (L.-P. Morency, C. Busso, and C. Pelachaud, eds.), (Tokyo, Japan), pp. 274–278, ACM, ACM, November 2016
- 412) Y. Zhang, F. Weninger, Z. Ren, and B. Schuller, “Sincerity and Deception in Speech: Two Sides of the Same Coin? A Transfer- and Multi-Task Learning Perspective,” in *Proceedings INTERSPEECH 2016, 17th Annual Conference of the International Speech Communication Association*, (San Francisco, CA), pp. 2041–2045, ISCA, ISCA, September 2016. (acceptance rate: 50 %)
- 413) Y. Zhang, Y. Zhou, J. Shen, and B. Schuller, “Semi-autonomous Data Enrichment Based on Cross-task Labelling of Missing Targets for Holistic Speech Analysis,” in *Proceedings 41st IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2016*, (Shanghai, P.R. China), pp. 6090–6094, IEEE, IEEE, March 2016. (acceptance rate: 45 %)
- 414) Y. Zhang and B. Schuller, “Towards Human-Like Holistic Machine Perception of Speaker States and Traits,” in *Proceedings of the Human-Like Computing Machine Intelligence Workshop, MI20-HLC*, (Windsor, U.K.), Springer, October 2016. 3 pages
- 415) J. Deng, X. Xu, Z. Zhang, S. Frühholz, D. Grandjean, and B. Schuller, “Fisher Kernels on Phase-based Features for Speech Emotion Recognition,” in *Proceedings of the Seventh International Workshop on Spoken Dialogue Systems (IWSDS)*, (Saariselkä, Finland), Springer, January 2016. 6 pages
- 416) B. Schuller, B. Vlasenko, F. Eyben, M. Wöllmer, A. Stuhlsatz, A. Wendemuth, and G. Rigoll, “Cross-Corpus Acoustic Emotion Recognition: Variances and Strategies (Extended Abstract),” in *Proc. 6th biannual Conference on Affective Computing and Intelligent Interaction (ACII 2015)*, (Xi’an, P.R. China), pp. 470–476, AAAC, IEEE, September 2015. invited for the Special Session on Most Influential Articles in IEEE Transactions on Affective Computing
- 417) B. Schuller, E. Marchi, S. Baron-Cohen, A. Lassalle, H. O’Reilly, D. Pigat, P. Robinson, I. Davies, T. Baltrusaitis, M. Mahmoud, O. Golan, S. Friedenson, S. Tal, S. Newman, N. Meir, R. Shillo, A. Camurri, S. Pianà, A. Staglianò, S. Bölte, D. Lundqvist, S. Berggren, A. Baranger, N. Sullings, M. Sezgin, N. Alyuz, A. Rynkiewicz, K. Ptaszek, and K. Ligmann, “Recent developments and results of ASC-Inclusion: An Integrated Internet-Based Environment for Social Inclusion of Children with Autism Spectrum Conditions,” in *Proceedings of the 3rd International Workshop on Intelligent Digital Games for Empowerment and Inclusion (IDGEI 2015) as part of the 20th ACM International Conference on Intelligent User Interfaces, IUI 2015* (L. Paletta, B. Schuller, P. Robinson, and N. Sabouret, eds.), (Atlanta, GA), ACM, ACM, March 2015. 9 pages, best paper award (long talk acceptance rate: 36 %)
- 418) B. Schuller, “Speech Analysis in the Big Data Era,” in *Text, Speech, and Dialogue – Proceedings of the 18th International Conference on Text, Speech and Dialogue, TSD 2015*, vol. 9302 of *Lecture Notes in Computer Science (LNCS)*, pp. 3–11, Springer, September 2015. satellite event of INTERSPEECH 2015, invited contribution (acceptance rate: 50 %)
- 419) B. Schuller, S. Steidl, A. Batliner, S. Hantke, F. Hönig, J. R. Orozco-Arroyave, E. Nöth, Y. Zhang, and F. Weninger, “The INTERSPEECH 2015 Computational Paralinguistics Challenge: Degree of Nativeness, Parkinson’s & Eating Condition,” in *Proceedings INTERSPEECH 2015, 16th Annual Conference of the International Speech Communication Association*, (Dresden, Germany), pp. 478–482, ISCA, ISCA, September 2015. (acceptance rate: 51 %)
- 420) L. Azaïs, A. Payan, T. Sun, G. Vidal, T. Zhang, E. Coutinho, F. Eyben, and B. Schuller, “Does my Speech Rock? Automatic Assessment of Public Speaking Skills,” in *Proceedings INTERSPEECH 2015, 16th Annual Conference of the International Speech Communication Association*, (Dresden, Ger-

- many), pp. 2519–2523, ISCA, ISCA, September 2015. (acceptance rate: 51 %)
- 421) E. Coutinho, G. Trigeorgis, S. Zafeiriou, and B. Schuller, “Automatically Estimating Emotion in Music with Deep Long-Short Term Memory Recurrent Neural Networks,” in *Proceedings of the MediaEval 2015 Multimedia Benchmark Workshop, satellite of Interspeech 2015* (M. Larson, B. Ionescu, M. Sjöberg, X. Anguera, J. Poignant, M. Riegler, M. Eskevich, C. Hauff, R. Sutcliffe, G. J. Jones, Y.-H. Yang, M. Soleymani, and S. Papadopoulos, eds.), vol. 1436, (Wurzen, Germany), CEUR, September 2015. 3 pages
- 422) J. Deng, Z. Zhang, F. Eyben, and B. Schuller, “Autoencoder-based Unsupervised Domain Adaptation for Speech Emotion Recognition,” in *Proceedings 40th IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2015*, (Brisbane, Australia), pp. 1068–1072, IEEE, IEEE, April 2015
- 423) F. Eyben, B. Huber, E. Marchi, D. Schuller, and B. Schuller, “Robust Real-time Affect Analysis and Speaker Characterisation on Mobile Devices,” in *Proc. 6th biannual Conference on Affective Computing and Intelligent Interaction (ACII 2015)*, (Xi’an, P.R. China), pp. 778–780, AAAC, IEEE, IEEE, September 2015. (acceptance rate: 55 %)
- 424) S. Feraru, D. Schuller, and B. Schuller, “Cross-Language Acoustic Emotion Recognition: An Overview and Some Tendencies,” in *Proc. 6th biannual Conference on Affective Computing and Intelligent Interaction (ACII 2015)*, (Xi’an, P.R. China), pp. 125–131, AAAC, IEEE, IEEE, September 2015. (acceptance rate oral: 28 %)
- 425) K. Gentsch, E. Coutinho, F. Eyben, B. Schuller, and K. R. Scherer, “Classifying Emotion-Antecedent Appraisal in Brain Activity using Machine Learning Methods,” in *Proceedings of the International Society for Research on Emotions Conference (ISRE 2015)*, (Geneva, Switzerland), ISRE, ISRE, July 2015. 1 page
- 426) S. Hantke, F. Eyben, T. Appel, and B. Schuller, “iHEARUPLAY: Introducing a game for crowdsourced data collection for affective computing,” in *Proc. 1st International Workshop on Automatic Sentiment Analysis in the Wild (WASA 2015) held in conjunction with the 6th biannual Conference on Affective Computing and Intelligent Interaction (ACII 2015)*, (Xi’an, P.R. China), pp. 891–897, AAAC, IEEE, IEEE, September 2015. (acceptance rate: 60 %)
- 427) E. Marchi, F. Vesperini, F. Eyben, S. Squartini, and B. Schuller, “A Novel Approach for Automatic Acoustic Novelty Detection Using a Denoising Autoencoder with Bidirectional LSTM Neural Networks,” in *Proceedings 40th IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2015*, (Brisbane, Australia), pp. 1996–2000, IEEE, IEEE, April 2015
- 428) E. Marchi, F. Vesperini, F. Weninger, F. Eyben, S. Squartini, and B. Schuller, “Non-Linear Prediction with LSTM Recurrent Neural Networks for Acoustic Novelty Detection,” in *Proceedings 2015 International Joint Conference on Neural Networks (IJCNN)*, (Killarney, Ireland), INNS/IEEE, IEEE, July 2015
- 429) E. Marchi, B. Schuller, S. Baron-Cohen, O. Golan, S. Bölte, P. Arora, and R. Häb-Umbach, “Typicality and Emotion in the Voice of Children with Autism Spectrum Condition: Evidence Across Three Languages,” in *Proceedings INTERSPEECH 2015, 16th Annual Conference of the International Speech Communication Association*, (Dresden, Germany), pp. 115–119, ISCA, ISCA, September 2015. (acceptance rate: 51 %)
- 430) E. Marchi, B. Schuller, S. Baron-Cohen, A. Lassalle, H. O’Reilly, D. Pigat, O. Golan, S. Friedenson, S. Tal, S. Bölte, S. Berggren, D. Lundqvist, and M. S. Elfström, “Voice Emotion Games: Language and Emotion in the Voice of Children with Autism Spectrum Condition,” in *Proceedings of the 3rd International Workshop on Intelligent Digital Games for Empowerment and Inclusion (IDGEI 2015) as part of the 20th ACM International Conference on Intelligent User Interfaces, IUI 2015* (L. Paletta, B. Schuller, P. Robinson, and N. Sabouret, eds.), (Atlanta, GA), ACM, ACM, March 2015. 9 pages (long talk acceptance rate: 36 %)
- 431) A. Metallinou, M. Wöllmer, A. Katsamanis, F. Eyben, B. Schuller, and S. Narayanan, “Context-Sensitive Learning for Enhanced Audiovisual Emotion Classification (Extended Abstract),” in *Proc. 6th biannual Conference on Affective Computing and Intelligent Interaction (ACII 2015)*, (Xi’an, P.R. China), pp. 463–469, AAAC, IEEE, IEEE, September 2015. invited for the Special Session on Most Influential Articles in IEEE Transactions on Affective Computing
- 432) S. Newman, O. Golan, S. Baron-Cohen, S. Bölte, A. Rynkiewicz, A. Baranger, B. Schuller, P. Robinson, A. Camurri, M. Sezgin, N. Meir-Goren, S. Tal, S. Fridenson-Hayo, A. Lassalle, S. Berggren, N. Sullings, D. Pigat, K. Ptaszek, E. Marchi, S. Piana, and T. Baltrusaitis, “ASC-Inclusion – a Virtual World Teaching Children with ASC about Emotions,” in *Proceedings 14th Annual International Meeting For Autism Research (IMFAR 2015)*, (Salt Lake City, UT), International Society for Autism Research (INSAR), INSAR, May 2015. 1 page
- 433) P. Pohl and B. Schuller, “Digital Analysis of Vocal Operants,” in *Proceedings 2015 Meeting of the Experimental Analysis of Behaviour Group (EABG)*, (London, UK), EABG, EABG, March 2015. 1 pager
- 434) F. Pokorny, F. Graf, F. Pernkopf, and B. Schuller, “Detection of Negative Emotions in Speech Signals Using Bags-of-Audio-Words,” in *Proc. 1st International Workshop on Automatic Sentiment Analysis in the Wild (WASA 2015) held in conjunction with the 6th biannual Conference on Affective Computing and Intelligent Interaction (ACII 2015)*, (Xi’an, P.R. China), pp. 879–884, AAAC, IEEE, IEEE, September 2015. (acceptance rate: 60 %)
- 435) K. Qian, Z. Zhang, F. Ringeval, and B. Schuller, “Bird Sounds Classification by Large Scale Acoustic Features and Extreme Learning Machine,” in *Proceedings 3rd IEEE Global Conference on Signal and Information Processing, GlobalSIP, Machine Learning Applications in Speech Processing Symposium*, (Orlando, FL), pp. 1317–1321, IEEE, IEEE, December 2015. (acceptance rate: 45 %)
- 436) F. Ringeval, E. Marchi, M. Méhu, K. Scherer, and B. Schuller, “Face Reading from Speech – Predicting Facial Action Units from Audio Cues,” in *Proceedings INTERSPEECH 2015, 16th Annual Conference of the International Speech Communication Association*, (Dresden, Germany), pp. 1977–1981, ISCA, ISCA, September 2015. (acceptance rate: 51 %)
- 437) F. Ringeval, B. Schuller, M. Valstar, R. Cowie, and M. Pantic, “AVEC 2015: The 5th International Audio/Visual Emotion Challenge and Workshop,” in *Proceedings of the 23rd ACM International Conference on Multimedia, MM 2015*, (Brisbane, Australia), pp. 1335–1336, ACM, ACM, October 2015. (acceptance rate: 25 %)
- 438) F. Ringeval, B. Schuller, M. Valstar, S. Jaiswal, E. Marchi, D. Lalanne, R. Cowie, and M. Pantic, “AV+EC 2015 – The First Affect Recognition Challenge Bridging Across Audio, Video, and Physiological Data,” in *Proceedings of the 5th International Workshop on Audio/Visual Emotion Challenge, AVEC’15, co-located with the 23rd ACM International Conference on Multimedia, MM 2015* (F. Ringeval, B. Schuller, M. Valstar, R. Cowie, and M. Pantic, eds.), (Brisbane, Australia), pp. 3–8, ACM, ACM, October 2015
- 439) N. Sabouret, B. Schuller, L. Paletta, E. Marchi, H. Jones, and A. B. Youssef, “Intelligent User Interfaces in Digital Games for Empowerment and Inclusion,” in *Proceedings of the 12th International Conference on Advancement in Computer Entertainment Technology, ACE 2015*, (Iskandar, Malaysia), ACM, ACM, November 2015. 8 pages, Gold Paper Award
- 440) H. Sagha, E. Coutinho, and B. Schuller, “The importance of

- individual differences in the prediction of emotions induced by music,” in *Proceedings of the 5th International Workshop on Audio/Visual Emotion Challenge, AVEC’15, co-located with the 23rd ACM International Conference on Multimedia, MM 2015* (F. Ringeval, B. Schuller, M. Valstar, R. Cowie, and M. Pantic, eds.), (Brisbane, Australia), pp. 57–63, ACM, ACM, October 2015. (acceptance rate: 60%)
- 441) M. Schröder, E. Bevacqua, R. Cowie, F. Eyben, H. Gunes, D. Heylen, M. ter Maat, G. McKeown, S. Pammi, M. Pantic, C. Pelachaud, B. Schuller, E. de Sevin, M. Valstar, and M. Wöllmer, “Building Autonomous Sensitive Artificial Listeners (Extended Abstract),” in *Proc. 6th biannual Conference on Affective Computing and Intelligent Interaction (ACII 2015)*, (Xi’an, P.R. China), pp. 456–462, AAAC, IEEE, September 2015. invited for the Special Session on Most Influential Articles in IEEE Transactions on Affective Computing
- 442) G. Trigeorgis, E. Coutinho, F. Ringeval, E. Marchi, S. Zafeiriou, and B. Schuller, “The ICL-TUM-PASSAU approach for the MediaEval 2015 “Affective Impact of Movies” Task,” in *Proceedings of the MediaEval 2015 Multimedia Benchmark Workshop, satellite of Interspeech 2015* (M. Larson, B. Ionescu, M. Sjöberg, X. Anguera, J. Poignant, M. Riegler, M. Eskevich, C. Hauff, R. Sutcliffe, G. J. Jones, Y.-H. Yang, M. Soleymani, and S. Papadopoulos, eds.), vol. 1436, (Wurzen, Germany), CEUR, September 2015. 3 pages, best result
- 443) G. Trigeorgis, M. A. Nicolaou, S. Zafeiriou, and B. Schuller, “Towards Deep Alignment of Multimodal Data,” in *Proceedings 2015 Multimodal Machine Learning Workshop held in conjunction with NIPS 2015 (MMML@NIPS)*, (Montréal, QC), NIPS, NIPS, December 2015. 4 pages
- 444) F. Weninger, H. Erdogan, S. Watanabe, E. Vincent, J. Le Roux, J. R. Hershey, and B. Schuller, “Speech Enhancement with LSTM Recurrent Neural Networks and its Application to Noise-Robust ASR,” in *Latent Variable Analysis and Signal Separation – Proceedings 12th International Conference on Latent Variable Analysis and Signal Separation, LVA/ICA 2015* (E. Vincent, A. Yeredor, Z. Koldovsk?, and P. Tichavsk?, eds.), vol. 9237 of *Lecture Notes in Computer Science*, (Liberec, Czech Republic), pp. 91–99, Springer, August 2015
- 445) X. Xu, J. Deng, W. Zheng, L. Zhao, and B. Schuller, “Dimensionality Reduction for Speech Emotion Features by Multiscale Kernels,” in *Proceedings INTERSPEECH 2015, 16th Annual Conference of the International Speech Communication Association*, (Dresden, Germany), pp. 1532–1536, ISCA, ISCA, September 2015. (acceptance rate: 51%)
- 446) Y. Zhang, E. Coutinho, Z. Zhang, C. Quan, and B. Schuller, “Agreement-based Dynamic Active Learning with Least and Medium Certainty Query Strategy,” in *Proceedings Advances in Active Learning : Bridging Theory and Practice Workshop held in conjunction with the 32nd International Conference on Machine Learning, ICML 2015* (A. Krishnamurthy, A. Ramdas, N. Balcan, and A. Singh, eds.), (Lille, France), International Machine Learning Society, IMLS, July 2015. 5 pages
- 447) Y. Zhang, E. Coutinho, Z. Zhang, M. Adam, and B. Schuller, “On Rater Reliability and Agreement Based Dynamic Active Learning,” in *Proc. 6th biannual Conference on Affective Computing and Intelligent Interaction (ACII 2015)*, (Xi’an, P.R. China), pp. 70–76, AAAC, IEEE, September 2015. (acceptance rate oral: 28%)
- 448) Y. Zhang, E. Coutinho, Z. Zhang, C. Quan, and B. Schuller, “Dynamic Active Learning Based on Agreement and Applied to Emotion Recognition in Spoken Interactions,” in *Proceedings 17th International Conference on Multimodal Interaction, ICMI 2015*, (Seattle, WA), pp. 275–278, ACM, ACM, November 2015
- 449) B. Schuller, Y. Zhang, F. Eyben, and F. Weninger, “Intelligent systems’ Holistic Evolving Analysis of Real-life Universal speaker characteristics,” in *Proceedings of the 5th International Workshop on Emotion Social Signals, Sentiment & Linked Open Data (ES³LOD 2014)*, satellite of the 9th Language Resources and Evaluation Conference (LREC 2014) (B. Schuller, P. Buitelaar, L. Devillers, C. Pelachaud, T. Declerck, A. Batliner, P. Rosso, and S. Gaines, eds.), (Reykjavik, Iceland), pp. 14–20, ELRA, ELRA, May 2014
- 450) B. Schuller, S. Steidl, A. Batliner, J. Epps, F. Eyben, F. Ringeval, E. Marchi, and Y. Zhang, “The INTERSPEECH 2014 Computational Paralinguistics Challenge: Cognitive & Physical Load,” in *Proceedings INTERSPEECH 2014, 15th Annual Conference of the International Speech Communication Association*, (Singapore, Singapore), ISCA, ISCA, September 2014. 5 pages (acceptance rate: 52%)
- 451) B. Schuller, F. Friedmann, and F. Eyben, “The Munich BioVoice Corpus: Effects of Physical Exercising, Heart Rate, and Skin Conductance on Human Speech Production,” in *Proceedings 9th Language Resources and Evaluation Conference (LREC 2014)*, (Reykjavik, Iceland), pp. 1506–1510, ELRA, ELRA, May 2014
- 452) B. Schuller, E. Marchi, S. Baron-Cohen, H. O’Reilly, D. Pigat, P. Robinson, I. Davies, O. Golan, S. Fridenson, S. Tal, S. Newman, N. Meir, R. Shillo, A. Camurri, S. Piana, A. Staglianò, S. Bölte, D. Lundqvist, S. Berggren, A. Baranger, and N. Sullings, “The state of play of ASC-Inclusion: An Integrated Internet-Based Environment for Social Inclusion of Children with Autism Spectrum Conditions,” in *Proceedings 2nd International Workshop on Digital Games for Empowerment and Inclusion (IDGEI 2014)* (L. Paletta, B. Schuller, P. Robinson, and N. Sabouret, eds.), (Haifa, Israel), ACM, ACM, February 2014. 8 pages, held in conjunction with the 19th International Conference on Intelligent User Interfaces (IUI 2014)
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- 754) L. Paletta, L. Itti, B. Schuller, and F. Fang, eds., *Proceedings of the 6th International Symposium on Attention in Cognitive Systems 2013, ISACS 2013*, vol. 1307.6170, (Beijing, P.R. China), arxiv.org, Springer, August 2013. held in conjunction with the 23rd International Joint Conference on Artificial Intelligence, IJCAI 2013
- 755) B. Schuller, M. Valstar, R. Cowie, and M. Pantic, “AVEC 2012: the continuous audio/visual emotion challenge – an introduction,” in *Proceedings of the 14th ACM International Conference on Multimodal Interaction, ICMI* (L.-P. Morency, D. Bohus, H. K. Aghajan, J. Cassell, A. Nijholt, and J. Epps, eds.), (Santa Monica, CA), pp. 361–362, ACM, ACM, October 2012. (acceptance rate: 36 %)
- 756) B. Schuller, E. Douglas-Cowie, and A. Batliner, “Guest Editorial: Special Section on Naturalistic Affect Resources for System Building and Evaluation,” *IEEE Transactions on Affective Computing, Special Issue on Naturalistic Affect Resources for System Building and Evaluation*, vol. 3, pp. 3–4, January–March 2012. (IF: 3.466 (2013))
- 757) L. Devillers, B. Schuller, A. Batliner, P. Rosso, E. Douglas-Cowie, R. Cowie, and C. Pelachaud, eds., *Proceedings of the 4th International Workshop on EMOTION SENTIMENT & SOCIAL SIGNALS 2012 (ES? 2012) – Corpora for Research on Emotion, Sentiment & Social Signals*, (Istanbul, Turkey), ELRA, ELRA, May 2012. held in conjunction with LREC 2012
- 758) J. Epps, R. Cowie, S. Narayanan, B. Schuller, and J. Tao, “Editorial Emotion and Mental State Recognition from Speech,” *EURASIP Journal on Advances in Signal Processing, Special Issue on Emotion and Mental State Recognition from Speech*, vol. 2012, no. 15, 2012. 2 pages (acceptance rate: 38 %, IF: 1.012 (2010))
- 759) S. Squartini, B. Schuller, and A. Hussain, “Cognitive and Emotional Information Processing for Human-Machine Interaction,” *Cognitive Computation, Special Issue on Cognitive and Emotional Information Processing for Human-Machine Interaction*, vol. 4, pp. 383–385, August 2012. (IF: 4.287 (2018))
- 760) B. Schuller, S. Steidl, and A. Batliner, “Introduction to the Special Issue on Sensing Emotion and Affect – Facing Realism in Speech Processing,” *Speech Communication, Special Issue Sensing Emotion and Affect – Facing Realism in Speech Processing*, vol. 53, pp. 1059–1061, November/December 2011. (acceptance rate: 38 %, IF: 1.267 (2011))
- 761) B. Schuller, M. Valstar, R. Cowie, and M. Pantic, eds., *Proceedings of the First International Audio/Visual Emotion Challenge and Workshop, AVEC 2011*, vol. 6975, Part II of *Lecture Notes on Computer Science (LNCS)*, (Memphis, TN), HUMAINE Association, Springer, October 2011. held in conjunction with the International HUMAINE Association Conference on Affective Computing and Intelligent Interaction 2011, ACII 2011
- 762) L. Devillers, B. Schuller, R. Cowie, E. Douglas-Cowie, and A. Batliner, eds., *Proceedings of the 3rd International Workshop on EMOTION: Corpora for Research on Emotion and Affect*, (Valletta, Malta), ELRA, ELRA, May 2010. Satellite of 7th International Conference on Language Resources and Evaluation (LREC 2010) (acceptance rate: 69 %)

Abstracts in Journals (6):

- 763) F. B. Pokorny, B. W. Schuller, I. Tomantschger, D. Zhang, C. Einspieler, and P. B. Marschik, “Intelligent pre-linguistic vocalisation analysis: a promising novel approach for the earlier identification of Rett syndrome,” *Wiener Medizinische Wochenschrift*, vol. 166, pp. 382–383, July 2016. Rett Syndrome – RTT50.1 (IF: 0.56 (2015))
- 764) B. Schuller, “Approaching Cross-Audio Computer Audition,” *Dagstuhl Reports*, vol. 3, pp. 22–22, November 2013
- 765) F. Metzke, X. Anguera, S. Ewert, J. Gemmeke, D. Kolossa, E. M. Provost, B. Schuller, and J. Serrà, “Learning of Units and Knowledge Representation,” *Dagstuhl Reports*, vol. 3, pp. 13–13, November 2013
- 766) B. Schuller, S. Fridenzon, S. Tal, E. Marchi, A. Batliner, and O. Golan, “Learning the Acoustics of Autism-Spectrum Emotional Expressions – A Children’s Game?,” *Neuropsychiatrie de l’Enfance et de l’Adolescence*, vol. 60, p. 32, July 2012. invited contribution
- 767) B. Schuller, “Next Gen Music Analysis: Some Inspirations from Speech,” *Dagstuhl Reports*, vol. 1, no. 1, pp. 93–93, 2011
- 768) S. Ewert, M. Goto, P. Grosche, F. Kaiser, K. Yoshii, F. Kurth, M. Mauch, M. Müller, G. Peeters, G. Richard, and B. Schuller, “Signal Models for and Fusion of Multimodal Information,” *Dagstuhl Reports*, vol. 1, no. 1, pp. 97–97, 2011

Abstracts in Conference/Challenge Proceedings (34)

- 769) B. W. Schuller, “Call for attention: Audio Intelligence++,” in *7th International Symposium on Auditory and Audiological Research, ISAAR*, (Nyborg, Denmark), August 2019. 1 page
- 770) B. W. Schuller, D. M. Schuller, F. Burkhardt, and F. Eyben, “Sprache als Biomarker für psychische Störungen: Werkzeuge zur aktuellen automatischen Analyse,” in *Proc. 11. Workshop-kongress und 37. Symposium der Fachgruppe Klinische Psychologie und Psychotherapie der DGPs*, (Erlangen/Germany), DGPs, DGPs, May/June 2019. 1 page, invited for the Special Session on “E-mental health meets diagnostic: multidisziplinäre Ansätze zur Erfassung transdiagnostischer Faktoren”, to appear
- 771) C. Oates, A. Triantafyllopoulos, and B. W. Schuller, “Enabling Early Detection and Continuous Monitoring of Parkinson’s Disease,” in *AAATE 2019 Conference Global Challenges in Assistive Technology: Research, Policy & Practice*, (Bologna, Italy), AAATE, AAATE, August 2019. 1 page, to appear

- 772) L. Stappen, N. Cummins, E.-M. Messner, A. Mallol-Ragolta, H. Baumeister, and B. Schuller, "Attention-based Neural Networks for the Detection of Objective Linguistic Markers in Depressive Spoken and Written Language," in *Proceedings 16th International Pragmatics Conference (IPrA)*, (Hong Kong, P.R. China), International Pragmatics Association (IPrA), IPrA, June 2019. 1 page, to appear
- 773) B. Schuller, "Emotion Sensing at Your Wrist," in *2nd Workshop on emotion awareness for pervasive computing with mobile and wearable devices (EmotionAware 2018) in conjunction with the 2018 IEEE International Conference on Pervasive Computing and Communications (PerCom 2018)*, (Athens, Greece), IEEE, IEEE, March 2018. 1 page, to appear
- 774) B. Schuller, "State of Mind Sensing from Speech: State of Matters and What Matters," in *Speech, Music and Mind 2018 (SMM18): Detecting and Influencing Mental States with Audio, satellite workshop of Interspeech 2018*, (Hyderabad, India), ISCA, ISCA, September 2018. 1 page
- 775) A. Baird, S. Amiriparian, A. Rynkiewicz, and B. Schuller, "Echolalic Autism Spectrum Condition Vocalisations: Brute-Force and Deep Spectrum Features," in *Proceedings International Paediatric Conference (IPC 2018)*, (Rzeszów, Poland), Polish Society of Social Medicine and Public Health, May 2018. 2 pages
- 776) J. Shen, E. Ainger, A. M. Alcorn, S. Babović Dimitrijević, A. Baird, P. Chevalier, N. Cummins, J. J. Li, E. Marchi, E. Marinou, V. Olaru, M. Pantic, E. Pellicano, S. Petrović, V. Petrović, B. R. Schadenberg, B. Schuller, S. Skendzić, C. Sminchescu, T. Tavassoli, L. Tran, B. Vlasenko, M. Zanzfir, V. Evers, and C. De-Enigma, "Autism Data Goes Big: A Publicly-Accessible Multi-Modal Database of Child Interactions for Behavioural and Machine Learning Research," in *Proceedings 17th Annual International Meeting For Autism Research (IMFAR 2018)*, (Rotterdam, the Netherlands), pp. 288–289, International Society for Autism Research (INSAR), INSAR, May 2018
- 777) Z. Zhang, A. Warlaumont, B. Schuller, G. Yetish, C. Scaff, H. Colleran, J. Stieglitz, and A. Cristia, "Developing computational measures of vocal maturity from daylong recordings," in *16èmes Rencontres du Réseau Français de Phonologie (RFP 2018)*, (Paris, France), RFP, RFP, June 2018. 1 page
- 778) B. Schuller, "Mental health monitoring in the pocket as a life changer? The AI view," in *Proceedings 9th Scientific Meeting of the International Society for Research on Internet Interventions, ISRII 2017*, (Berlin, Germany), Society for Research on Internet Interventions (SRII), Elsevier, October 2017. 1 page
- 779) A. Rynkiewicz, K. Grabowski, A. Lassalle, S. Baron-Cohen, B. Schuller, N. Cummins, A. Baird, N. Hadjikhani, J. Podgrska-Bednarz, A. Pieniek, I. ucka, A. Mazur, and J. Tabarkiewicz, "Humanoid Robots and Modern Technology in ADOS-2 and BOSCC to Support the Clinical Evaluation and Therapy of Patients with Autism Spectrum Condition (ASC) / Roboty humanoidalne oraz nowe technologie w ADOS-2 i BOSCC, wspierające diagnostykę kliniczną i terapię osób ze stanami ze spektrum autyzmu," in *Proceedings XXIX Ogniopolska Konferencja Sekcji Naukowej Psychiatrii Dzieci i Młodzieży Polskiego Towarzystwa Psychiatrycznego*, (Katowice, Poland), Polskie Towarzystwo Psychiatryczne, PTP, November 2017. 3 pages
- 780) N. Cummins, S. Hantke, S. Schnieder, J. Krajewski, and B. Schuller, "Classifying the Context and Emotion of Dog Barks: A Comparison of Acoustic Feature Representations," in *Proceedings Pre-Conference on Affective Computing 2017 SAS Annual Conference*, (Boston, MA), pp. 14–15, Society for Affective Science (SAS), April 2017
- 781) J. Guo, K. Qian, B. Schuller, and S. Matsuoka, "GPU Processing Accelerates Training Autoencoders for Bird Sounds Data," in *Proceedings 2017 GPU Technology Conference (GTC)*, (San Jose, CA), NVIDIA, May 2017. 1 page
- 782) F. B. Pokorný, B. W. Schuller, K. D. Bartl-Pokorný, D. Zhang, C. Einspieler, and P. B. Marschik, "In a bad mood? Automatic audio-based recognition of infant fussing and crying in videotaped vocalisations," in *Proceedings 2017 13th International Infant Cry Workshop*, (Castel Noarna-Rovereto, Italy), July 2017. 1 page
- 783) Y. Zhang and B. Schuller, "Towards Human-like Holistic Machine Perception of Affective Social Behaviour," in *Proceedings 12th Workshop on Women in Machine Learning (WiML 2017), satellite event of NIPS 2017*, (Long Beach, CA), NIPS, NIPS, December 2017. 1 page
- 784) B. Schuller, "Engage to Empower: Emotionally Intelligent Computer Games & Robots for Autistic Children," in *Proceedings "The world innovations combining medicine, engineering and technology in autism diagnosis and therapy"* (A. Rynkiewicz and K. Grabowski, eds.), (Rzeszów, Poland), pp. 65–67, SOLIS RADIUS, September 2016
- 785) B. Schuller, "Zaangażowanie aby wzmacniać kompetencje: emocjonalnie inteligentne roboty i gry komputerowe dla dzieci z autyzmem," in *Proceedings "Światowe innowacje łączące medycynę, inżynierię oraz technologie w diagnozowaniu i terapii autyzmu"* (A. Rynkiewicz and K. Grabowski, eds.), (Rzeszów, Poland), pp. 62–64, SOLIS RADIUS, September 2016
- 786) F. B. Pokorný, B. W. Schuller, K. D. Bartl-Pokorný, C. Einspieler, and P. B. Marschik, "Contributing to the early identification of Rett syndrome: Automated analysis of vocalisations from the pre-regression period," in *Proceedings Symposium of the Austrian Physiological Society 2016*, (Graz, Austria), ÖPG, ÖPG, October 2016. 1 page, Best Poster award 3rd place
- 787) F. B. Pokorný, B. W. Schuller, R. Peharz, F. Pernkopf, K. D. Bartl-Pokorný, C. Einspieler, and P. B. Marschik, "Contributing to the early identification of neurodevelopmental disorders: The retrospective analysis of pre-linguistic vocalisations in home video material," in *Proceedings IX Congreso Internacional y XIV Nacional de Psicología Clínica*, (Santander, Spain), November 2016. 1 page
- 788) F. B. Pokorný, B. W. Schuller, R. Peharz, F. Pernkopf, K. D. Bartl-Pokorný, C. Einspieler, and P. B. Marschik, "Retrospektive Analyse frühkindlicher Lautäußerungen in „Home-Videos“: Ein signalanalytischer Ansatz zur Früherkennung von Entwicklungsstörungen," in *Proceedings 42. Österreichische Linguistiktagung, ÖLT*, (Graz, Austria), November 2016. 1 page
- 789) O. Rudovic, V. Evers, M. Pantic, B. Schuller, and S. Petrović, "DE-ENIGMA Robots: Playfully Empowering Children with Autism," in *Proceedings XI Autism-Europe International Congress*, (Edinburgh, Scotland), Autism Europe, The National Autistic Society, September 2016. 1 page
- 790) O. Rudovic, J. Lee, B. Schuller, and R. Picard, "Automated Measurement of Engagement of Children with Autism Spectrum Conditions during Human-Robot Interaction (HRI)," in *Proceedings XI Autism-Europe International Congress*, (Edinburgh, Scotland), Autism Europe, The National Autistic Society, September 2016. 1 page
- 791) B. Schuller, "Modelling User Affect and Sentiment in Intelligent User Interfaces: a Tutorial Overview," in *Proceedings of the 20th ACM International Conference on Intelligent User Interfaces, IUI 2015*, (Atlanta, GA), pp. 443–446, ACM, ACM, March 2015
- 792) F. B. Pokorný, C. Einspieler, D. Zhang, A. Kimmerle, K. D. Bartl-Pokorný, B. W. Schuller, and S. Bölte, "The Voice of Autism: An Acoustic Analysis of Early Vocalisations," in *COST ESSEA Conference 2014 Book of Abstracts*, (Toulouse, France), September 2014. 1 page
- 793) B. Schuller, "Interfaces Seeing and Hearing the User," in *Proceedings The Rank Prize Funds Symposium on Natural User Interfaces, Augmented Reality and Beyond: Challenges at the Intersection of HCI and Computer Vision*, (Grasmere, UK), The Rank Prize Funds, The Rank Prize Funds, November 2013. invited contribution, 1 page
- 794) G. Ferroni, E. Marchi, F. Eyben, S. Squartini, and B. Schuller, "Onset Detection Exploiting Wavelet Transform with Bidirec-

- tional Long Short-Term Memory Neural Networks,” in *Proceedings Annual Meeting of the MIREX 2013 community as part of the 14th International Conference on Music Information Retrieval*, (Curitiba, Brazil), ISMIR, ISMIR, November 2013. 3 pages
- 795) G. Ferroni, E. Marchi, F. Eyben, L. Gabrielli, S. Squartini, and B. Schuller, “Onset Detection Exploiting Adaptive Linear Prediction Filtering in DWT Domain with Bidirectional Long Short-Term Memory Neural Networks,” in *Proceedings Annual Meeting of the MIREX 2013 community as part of the 14th International Conference on Music Information Retrieval*, (Curitiba, Brazil), ISMIR, ISMIR, November 2013. 4 pages
- 796) H. Gunes and B. Schuller, “Dimensional and Continuous Analysis of Emotions for Multimedia Applications: a Tutorial Overview,” in *Proceedings of the 20th ACM International Conference on Multimedia, MM 2012*, (Nara, Japan), ACM, ACM, October 2012. 2 pages
- 797) M. Schröder, S. Pammi, H. Gunes, M. Pantic, M. Valstar, R. Cowie, G. McKeown, D. Heylen, M. ter Maat, F. Eyben, B. Schuller, M. Wöllmer, E. Bevacqua, C. Pelachaud, and E. de Sevin, “Come and Have an Emotional Workout with Sensitive Artificial Listeners!,” in *Proceedings 9th IEEE International Conference on Automatic Face & Gesture Recognition and Workshops, FG 2011*, (Santa Barbara, CA), pp. 646–646, IEEE, IEEE, March 2011
- 798) F. Eyben and B. Schuller, “Music Classification with the Munich openSMILE Toolkit,” in *Proceedings Annual Meeting of the MIREX 2010 community as part of the 11th International Conference on Music Information Retrieval*, (Utrecht, Netherlands), ISMIR, ISMIR, August 2010. 2 pages (acceptance rate: 61 %)
- 799) F. Eyben and B. Schuller, “Tempo Estimation from Tatum and Meter Vectors,” in *Proceedings Annual Meeting of the MIREX 2010 community as part of the 11th International Conference on Music Information Retrieval*, (Utrecht, Netherlands), ISMIR, ISMIR, August 2010. 1 page (acceptance rate: 61 %)
- 800) S. Böck, F. Eyben, and B. Schuller, “Beat Detection with Bidirectional Long Short-Term Memory Neural Networks,” in *Proceedings Annual Meeting of the MIREX 2010 community as part of the 11th International Conference on Music Information Retrieval*, (Utrecht, Netherlands), ISMIR, ISMIR, August 2010. 2 pages (acceptance rate: 61 %)
- 801) S. Böck, F. Eyben, and B. Schuller, “Onset Detection with Bidirectional Long Short-Term Memory Neural Networks,” in *Proceedings Annual Meeting of the MIREX 2010 community as part of the 11th International Conference on Music Information Retrieval*, (Utrecht, Netherlands), ISMIR, ISMIR, August 2010. 2 pages (acceptance rate: 61 %)
- 802) S. Böck, F. Eyben, and B. Schuller, “Tempo Detection with Bidirectional Long Short-Term Memory Neural Networks,” in *Proceedings Annual Meeting of the MIREX 2010 community as part of the 11th International Conference on Music Information Retrieval*, (Utrecht, Netherlands), ISMIR, ISMIR, August 2010. 3 pages (acceptance rate: 61 %)
- Invited Papers (32):*
- 803) S. Amiriparian, S. Julka, N. Cummins, and B. Schuller, “Deep Convolutional Recurrent Neural Networks for Rare Sound Event Detection,” in *Proceedings 44. Jahrestagung für Akustik, DAGA 2018*, (Munich, Germany), DEGA, DEGA, March 2018. 4 pages, invited contribution, Structured Session Deep Learning for Audio
- 804) M. Schmitt and B. Schuller, “Deep Recurrent Neural Networks for Emotion Recognition in Speech,” in *Proceedings 44. Jahrestagung für Akustik, DAGA 2018*, (Munich, Germany), DEGA, DEGA, March 2018. 4 pages, invited contribution, Structured Session Deep Learning for Audio
- 805) B. Schuller, M. Wöllmer, F. Eyben, G. Rigoll, and D. Arsić, “Semantic Speech Tagging: Towards Combined Analysis of Speaker Traits,” in *Proceedings AES 42nd International Conference* (K. Brandenburg and M. Sandler, eds.), (Ilmenau, Germany), pp. 89–97, AES, Audio Engineering Society, July 2011. invited contribution
- 806) B. Schuller, S. Can, and H. Feussner, “Robust Key-Word Spotting in Field Noise for Open-Microphone Surgeon-Robot Interaction,” in *Proceedings 5th Russian-Bavarian Conference on Bio-Medical Engineering, RBC-BME 2009*, (Munich, Germany), pp. 121–123, July 2009. invited contribution
- 807) B. Schuller, A. Lehmann, F. Weninger, F. Eyben, and G. Rigoll, “Blind Enhancement of the Rhythmic and Harmonic Sections by NMF: Does it help?,” in *Proceedings International Conference on Acoustics, NAG/DAGA 2009*, (Rotterdam, The Netherlands), pp. 361–364, Acoustical Society of the Netherlands, DEGA, DEGA, March 2009. invited contribution
- 808) B. Schuller, “Speaker, Noise, and Acoustic Space Adaptation for Emotion Recognition in the Automotive Environment,” in *Proceedings 8th ITG Conference on Speech Communication*, vol. 211 of *ITG-Fachbericht*, (Aachen, Germany), ITG, VDE-Verlag, October 2008. invited contribution, 4 pages
- 809) B. Schuller, M. Wöllmer, T. Moosmayr, and G. Rigoll, “Robust Spelling and Digit Recognition in the Car: Switching Models and Their Like,” in *Proceedings 34. Jahrestagung für Akustik, DAGA 2008*, (Dresden, Germany), pp. 847–848, DEGA, DEGA, March 2008. invited contribution, Structured Session Sprachakustik im Kraftfahrzeug
- 810) B. Schuller, F. Eyben, and G. Rigoll, “Beat-Synchronous Data-driven Automatic Chord Labeling,” in *Proceedings 34. Jahrestagung für Akustik, DAGA 2008*, (Dresden, Germany), pp. 555–556, DEGA, DEGA, March 2008. invited contribution, Structured Session Music Processing
- 811) B. Schuller, S. Can, C. Scheuermann, H. Feussner, and G. Rigoll, “Robust Speech Recognition for Human-Robot Interaction in Minimal Invasive Surgery,” in *Proceedings 4th Russian-Bavarian Conference on Bio-Medical Engineering, RBC-BME 2008*, (Zelenograd, Russia), pp. 197–201, July 2008. invited contribution
- 812) B. Schuller, R. Müller, B. Hörnler, A. Höthker, H. Konosu, and G. Rigoll, “Audiovisual Recognition of Spontaneous Interest within Conversations,” in *Proceedings 9th ACM International Conference on Multimodal Interfaces, ICMI 2007*, (Nagoya, Japan), pp. 30–37, ACM, ACM, November 2007. invited contribution, Special Session on Multimodal Analysis of Human Spontaneous Behaviour (acceptance rate: 56 %)
- 813) B. Schuller, G. Rigoll, M. Grimm, K. Kroschel, T. Moosmayr, and G. Ruske, “Effects of In-Car Noise-Conditions on the Recognition of Emotion within Speech,” in *Proceedings 33. Jahrestagung für Akustik, DAGA 2007*, (Stuttgart, Germany), pp. 305–306, DEGA, DEGA, March 2007. invited contribution, Structured Session Sprachakustik im Kraftfahrzeug
- 814) B. Schuller, J. Stadermann, and G. Rigoll, “Affect-Robust Speech Recognition by Dynamic Emotional Adaptation,” in *Proceedings 3rd International Conference on Speech Prosody, SP 2006*, (Dresden, Germany), ISCA, ISCA, May 2006. invited contribution, Special Session Prosody in Automatic Speech Recognition, 4 pages
- 815) B. Schuller, M. Lang, and G. Rigoll, “Recognition of Spontaneous Emotions by Speech within Automotive Environment,” in *Proceedings 32. Jahrestagung für Akustik, DAGA 2006*, (Braunschweig, Germany), pp. 57–58, DEGA, DEGA, March 2006. invited contribution, Structured Session Sprachakustik im Kraftfahrzeug
- 816) B. Schuller and G. Rigoll, “Self-learning Acoustic Feature Generation and Selection for the Discrimination of Musical Signals,” in *Proceedings 32. Jahrestagung für Akustik, DAGA 2006*, (Braunschweig, Germany), pp. 285–286, DEGA, DEGA, March 2006. invited contribution, Structured Session Music Processing

- 817) B. Schuller, R. Müller, M. Lang, and G. Rigoll, "Speaker Independent Emotion Recognition by Early Fusion of Acoustic and Linguistic Features within Ensembles," in *Proceedings Interspeech 2005, Eurospeech*, (Lisbon, Portugal), pp. 805–809, ISCA, ISCA, September 2005. invited contribution, Special Session Emotional Speech Analysis and Synthesis: Towards a Multimodal Approach (acceptance rate: 61 %)
- 818) B. Schuller, M. Lang, and G. Rigoll, "Robust Acoustic Speech Emotion Recognition by Ensembles of Classifiers," in *Proceedings 31. Jahrestagung für Akustik, DAGA 2005*, (Munich, Germany), pp. 329–330, DEGA, DEGA, March 2005. invited contribution, Structured Session Automatische Spracherkennung in gestörter Umgebung
- 819) B. Schuller, G. Rigoll, and M. Lang, "Matching Monophonic Audio Clips to Polyphonic Recordings," in *Proceedings 31. Jahrestagung für Akustik, DAGA 2005*, (Munich, Germany), pp. 299–300, DEGA, DEGA, March 2005. invited contribution, Structured Session Music Processing
- 820) Z. Zhang, F. Weninger, and B. Schuller, "Towards Automatic Intoxication Detection from Speech in Real-Life Acoustic Environments," in *Proceedings of Speech Communication; 10. ITG Symposium* (T. Fingscheidt and W. Kellermann, eds.), (Braunschweig, Germany), pp. 1–4, ITG, IEEE, September 2012. invited contribution
- 821) C. Joder and B. Schuller, "Exploring Nonnegative Matrix Factorisation for Audio Classification: Application to Speaker Recognition," in *Proceedings of Speech Communication; 10. ITG Symposium* (T. Fingscheidt and W. Kellermann, eds.), (Braunschweig, Germany), pp. 1–4, ITG, IEEE, September 2012. invited contribution
- 822) J. Deng, W. Han, and B. Schuller, "Confidence Measures for Speech Emotion Recognition: a Start," in *Proceedings of Speech Communication; 10. ITG Symposium* (T. Fingscheidt and W. Kellermann, eds.), (Braunschweig, Germany), pp. 1–4, ITG, IEEE, September 2012. invited contribution
- 823) M. Wöllmer, M. Kaiser, F. Eyben, F. Weninger, B. Schuller, and G. Rigoll, "Fully Automatic Audiovisual Emotion Recognition – Voice, Words, and the Face," in *Proceedings of Speech Communication; 10. ITG Symposium* (T. Fingscheidt and W. Kellermann, eds.), (Braunschweig, Germany), pp. 1–4, ITG, IEEE, September 2012. invited contribution
- 824) F. Weninger, M. Wöllmer, and B. Schuller, "Sparse, Hierarchical and Semi-Supervised Base Learning for Monaural Enhancement of Conversational Speech," in *Proceedings 10th ITG Conference on Speech Communication* (T. Fingscheidt and W. Kellermann, eds.), (Braunschweig, Germany), pp. 1–4, ITG, IEEE, September 2012. invited contribution
- 825) W. Han, Z. Zhang, J. Deng, M. Wöllmer, F. Weninger, and B. Schuller, "Towards Distributed Recognition of Emotion in Speech," in *Proceedings 5th International Symposium on Communications, Control, and Signal Processing, ISCCSP 2012*, (Rome, Italy), pp. 1–4, IEEE, IEEE, May 2012. invited contribution, Special Session Interactive Behaviour Analysis
- 826) F. Weninger and B. Schuller, "Fusing Utterance-Level Classifiers for Robust Intoxication Recognition from Speech," in *Proceedings MMCogEmS 2011 Workshop (Inferring Cognitive and Emotional States from Multimodal Measures)*, held in conjunction with the 13th International Conference on Multimodal Interaction, ICMI 2011, (Alicante, Spain), ACM, ACM, November 2011. invited contribution, 2 pages (acceptance rate: 39 %)
- 827) F. Weninger, B. Schuller, C. Liem, F. Kurth, and A. Hanjalic, "Music Information Retrieval: An Inspirational Guide to Transfer from Related Disciplines," in *Multimodal Music Processing* (M. Müller and M. Goto, eds.), vol. Seminar 11041 of *Dagstuhl Follow-Ups*, (Schloss Dagstuhl, Germany), pp. 195–215, 2012. invited contribution
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