

Publications by Björn W. Schuller

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

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, 1 ed., 2020
- 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 (54):

- 13) M. Milling, F. B. Pokorny, and K. D. B.-P. und Björn W. Schuller, “Stimme, das neue Blut!? Künstliche Intelligenz auf dem Weg Erkrankungen zu “hören”,” in *Technik und Gesundheit* (U. Gassner, ed.), vol. 4 of *Gesundheitsforschung. Interdisziplinäre Perspektiven (G.IP)*, Nomos, 2021. 26 pages, to appear
- 14) M. A. Nessiem, M. Amin, H. Coppock, and B. Schuller, “Artificial Intelligence for Diagnosis and Monitoring of COVID-19,” in *COVID-19* (D. Barh, ed.), Elsevier, 2021. invited contribution
- 15) B. W. Schuller and M. F. McTear, “Socio-cognitive Language Processing for Special User Groups,” in *Multimodal Agents for Ageing and Multicultural Societies* (J. Miehle, W. Minker, E. André, and K. Yoshino, eds.), Communications of NII Shonan Meetings, ch. 5, pp. 87–95, Springer, 2021
- 16) F. Pokorny and B. Schuller, “Perspectives of Sound Engineering,” in *Oxford Handbook of Language and Music* (D. Sammler, ed.), Oxford University Press, 2021. invited, to appear
- 17) V. Karas and B. Schuller, “Deep Learning for Sentiment Analysis: an Overview and Perspectives,” in *Natural Language Processing for Global and Local Business* (F. Pinarbasi and M. N. Taskiran, eds.), ch. 5, pp. 97–133, IGI Global, 2021
- 18) L.-P. Morency, S. Sakti, B. W. Schuller, and S. Ultes, “Multimodal Machine Learning for Social Interaction with Ageing Individuals,” in *Multimodal Agents for Ageing and Multicultural Societies* (J. Miehle, W. Minker, E. André, and K. Yoshino, eds.), Communications of NII Shonan Meetings, ch. 3, pp. 51–70, Springer, 2021
- 19) D. Schuller and B. Schuller, “Ist Stimme das neue Blut? KI und Stimmbiomarker zu früherer Diagnose – für jedermann, überall und jederzeit,” in *Künstliche Intelligenz im Gesundheitswesen* (M. Pfannstiel, ed.), Springer, 2021. invited contribution, to appear
- 20) S. Zhao, Q. Huang, Y. Tang, X. Yao, J. Yang, G. Ding, and B. W. Schuller, “Computational Emotion Analysis From Images: Recent Advances and Future Directions,” in *Human Perception of Visual Information – Psychological and Computational* (B. Ionescu, W. Bainbridge, and N. Murray, eds.), Springer, 2021. 28 pages, to appear
- 21) 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, R. Brattin, S. Ghidoni, and L. C. Jain, eds.), vol. 186 of *Intelligent Systems Reference Library (ISRL)*, ch. 5, pp. 137–164, Springer, 2020. invited contribution
- 22) N. Cummins, Z. Ren, A. Mallo-Ragolta, and B. Schuller, “Machine learning in digital health, recent trends, and ongoing challenges,” in *Artificial Intelligence in Precision Health* (D. Barh, ed.), ch. 5, pp. 121–148, Academic Press/Elsevier, 2020. invited contribution
- 23) N. Cummins, F. Matcham, J. Klapper, and B. Schuller, “Artificial intelligence to aid the detection of mood disorders,” in *Artificial Intelligence in Precision Health* (D. Barh, ed.), ch. 10, pp. 231–255, Academic Press/Elsevier, 2020. invited contribution
- 24) M. Pateraki, K. Fysarakis, V. Sakkalis, G. Spanoudakis, I. Varlamis, S. Ioannidis, M. Maniadas, 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., 2020
- 25) 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, pp. 187–204, Springer, 2020
 - 26) 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
 - 27) 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
 - 28) 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
 - 29) N. Cummins and B. Schuller, “Latest Advances in Computational Speech Analysis for Mobile Sensing,” in *Digital Phenotyping and Mobile Sensing* (H. Baumeister and C. Montag, eds.), Studies in Neuroscience, Psychology and Behavioral Economics, pp. 141–159, Berlin Heidelberg: Springer, 2019. invited contribution
 - 30) 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
 - 31) 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
 - 32) 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
 - 33) 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
 - 34) 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
 - 35) 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
 - 36) 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
 - 37) 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
 - 38) B. Schuller, “Acquisition of affect,” in *Emotions and Personality in Personalized Services* (M. Tkalcic, B. De Carolis, M. de Gemmis, A. Odić, and A. Kosir, eds.), Human-Computer Interaction Series, pp. 57–80, Springer, 1st ed., 2016
 - 39) 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
 - 40) 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
 - 41) B. Schuller and F. Weninger, “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
 - 42) 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
 - 43) 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
 - 44) 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
 - 45) 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
 - 46) F. Weninger, 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
 - 47) 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
- 48) 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
 - 49) B. Schuller and F. Weninger, “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
 - 50) 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
 - 51) 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
 - 52) 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
 - 53) 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
 - 54) 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
 - 55) 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
 - 56) 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
 - 57) 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
 - 58) 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, NOLISP 2009, Vic, Spain, June 25-27, 2009, Revised Selected Papers* (J. Sole-Casals and V. Ziaats, eds.), vol. 5933/2010 of *Lecture Notes on Computer Science (LNCS)*, pp. 68–75, Springer, 2010
 - 59) 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
 - 60) 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
 - 61) 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%)
 - 62) 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
 - 63) 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
 - 64) 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
 - 65) 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, ACHI 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

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B) REFEREED JOURNAL PAPERS (217)

- 67) B. W. Schuller, D. M. Schuller, K. Qian, J. Liu, H. Zheng, and X. Li, “COVID-19 and Computer Audition: An Overview on What Speech & Sound Analysis Could Contribute in the SARS-CoV-2 Corona Crisis,” *Frontiers in Digital Health, Health Technology Innovation*, vol. 3, pp. 1–16, March 2021
- 68) B. Schuller, A. Baird, A. Gebhard, S. Amiriparian, G. Keren, M. Schmitt, and N. Cummins, “New Avenues in Audio Intelligence: Towards Holistic Real-life Audio Understanding,” *Trends in Hearing*, vol. 25, no. November, pp. 1–14, 2021. (IF: 3.293 (2020))
- 69) A. Baird, A. Triantafyllopoulos, S. Zänkert, S. Ottil, L. Christ, L. Stappen, J. Konzok, S. Sturmbauer, E.-M. Messner, B. M. Kudielka, N. Rohleder, H. Baumeister, and B. W. Schuller, “An Evaluation of Speech-Based Recognition of Emotional and Physiological Markers of Stress,” *Frontiers in Computer Science, section Human-Media Interaction*, 2021. 28 pages, to appear
- 70) K. D. Bartl-Pokorny, M. Pykala, P. Uluer, D. E. Barkana, A. Baird, H. Kose, T. Zorcec, B. Robins, B. W. Schuller, and A. Landowska, “Robot-Based Intervention for Children with Autism Spectrum Disorder: A Systematic Literature Review,” *IEEE Access*, vol. 9, 2021. 19 pages, to appear (IF: 3.367 (2020))
- 71) K. D. Bartl-Pokorny, F. B. Pokorny, A. Batliner, S. Amiriparian, A. Semertzidou, F. Eyben, E. Kramer, F. Schmidt, R. Schönweiler, M. Wehler, and B. W. Schuller, “The voice of COVID-19: Acoustic correlates of infection in sustained vowels,” *Journal of the Acoustical Society of America, Special Issue on COVID-19 Pandemic Acoustic Effects*, vol. 149, pp. 4377–4383, June 2021. (IF: 1.840 (2020))
- 72) S. Chanda, K. Fitwe, G. Deshpande, B. W. Schuller, and S. Patel, “A Deep Audio-Visual Approach for Human Confidence Classification,” *Frontiers in Computer Science, section Human-Media Interaction*, 2021. 18 pages, to appear
- 73) J. Cheng, R. Liang, Z. Liang, L. Zhao, C. Huang, and B. Schuller, “A Deep Adaptation Network for Speech Enhancement: Combining a Relativistic Discriminator with Multi-Kernel Maximum Mean Discrepancy,” *IEEE/ACM Transactions on Audio, Speech and Language Processing*, vol. 29, pp. 41–53, 2021. (IF: 3.919 (2020))
- 74) H. Coppock, L. Jones, I. Kiskin, and B. Schuller, “COVID-19 Detection from Audio: Seven Grains of Salt,” *The Lancet Digital Health*, 2021. 3 pages, to appear (IF: 24.519 (2020))
- 75) H. Coppock, A. Gaskell, P. Tzirakis, A. Baird, L. Jones, and B. W. Schuller, “End-2-End COVID-19 Detection from Breath & Cough Audio,” *BMJ Innovations*, vol. 7, pp. 356–362, 2021
- 76) G. Deshpande, A. Batliner, and B. Schuller, “AI-based Human Audio Processing for COVID-19: A Comprehensive Overview,” *Pattern Recognition, Special Issue on AI for Combating COVID-2019*, 2021. 21 pages, to appear (IF: 7.740 (2021))
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- 398) K. Qian, Z. Ren, F. Dong, W.-H. Lai, B. Schuller, and Y. Yamamoto, “Deep Wavelets for Heart Sound Classification,” in *Proceedings of the International Symposium on Intelligent Signal Processing and Communication Systems, ISPACS*, (Beitou, Taiwan), pp. 1–2, IEEE/IET, IEEE, July 2019
- 399) K. Qian, H. Kuromiya, Z. Zhang, T. Nakamura, K. Yoshiuchi, B. W. Schuller, and Y. Yamamoto, “Teaching Machines to Know Your Depressive State: On Physical Activity in Health and Major Depressive Disorder,” in *Proceedings of the 41st Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2019*, (Berlin, Germany), pp. 3592–3595, IEEE, IEEE, July 2019
- 400) Z. Ren, Q. Kong, J. Han, M. D. Plumbley, and B. W. Schuller, “Attention-based Atrous Convolutional Neural Networks: Visualisation and Understanding Perspectives of Acoustic Scenes,” in *Proceedings 44th IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2019*, (Brighton, UK), pp. 56–60, IEEE, IEEE, May 2019. (acceptance rate: 46.5 %)
- 401) Z. Ren, J. Han, N. Cummins, Q. Kong, M. Plumbley, and B. Schuller, “Multi-instance Learning for Bipolar Disorder Diagnosis using Weakly Labelled Speech Data,” in *Proceedings of the 9th International Digital Public Health Conference, DPH 2019*, (Marseille, France), pp. 79–83, ACM, ACM, November 2019
- 402) F. Ringeval, B. Schuller, M. Valstar, N. Cummins, R. Cowie, M. Soleymani, M. Schmitt, S. Amiriparian, E.-M. Messner, L. Tavabi, S. Song, S. Alisamir, S. Lui, Z. Zhao, and M. Pantic, “AVEC 2019 Workshop and Challenge: State-of-Mind, Depression with AI, and Cross-Cultural Affect Recognition,” in *Proceedings of the 9th International Workshop on Audio/Visual Emotion Challenge, AVEC’19, co-located with the 27th ACM International Conference on Multimedia, MM 2019* (F. Ringeval, B. Schuller, M. Valstar, N. Cummins, R. Cowie, and M. Pantic, eds.), (Niece, France), pp. 3–12, ACM, ACM, October 2019
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- 405) O. Rudovic, M. Zhang, B. Schuller, and R. Picard, "Multimodal Active Learning From Human Data: A Deep Reinforcement Learning Approach," in *Proceedings of the 21st ACM International Conference on Multimodal Interaction, ICMI*, (Suzhou, China), pp. 6–15, ACM, ACM, October 2019. ICMI 2019 best paper runner-up (acceptance rate: 37 %)
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- 407) J. Schiele, F. Rabe, M. Schmitt, M. Glaser, F. Häring, J. O. Brunner, B. Bauer, B. Schuller, C. Traidl-Hoffmann, and A. Damialis, "Automated Classification of Airborne Pollen using Neural Networks," in *Proceedings of the 41st Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2019*, (Berlin, Germany), pp. 4474–4478, IEEE, IEEE, July 2019
- 408) J. Schmid, M. Schneider, A. Höß, and B. Schuller, "A Comparison of AI-Based Throughput Prediction for Cellular Vehicle-To-Server Communication," in *Proceedings of the 15th International Wireless Communications and Mobile Computing Conference, IWCMC 2019*, (Tangier, Morocco), pp. 471–476, IEEE, IEEE, June 2019. (acceptance rate: 35 %)
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- 410) M. Schmitt, N. Cummins, and B. W. Schuller, "Continuous Emotion Recognition in Speech – Do We Need Recurrence?," in *Proceedings INTERSPEECH 2019, 20th Annual Conference of the International Speech Communication Association*, (Graz, Austria), pp. 2808–2812, ISCA, ISCA, September 2019. (acceptance rate: 49.3 %)
- 411) M. Schmitt and B. W. Schuller, "End-to-end Audio Classification with Small Datasets – Making It Work," in *Proceedings 27th European Signal Processing Conference (EUSIPCO)*, (A Coruna, Spain), EURASIP, IEEE, September 2019. 5 pages (acceptance rate: 58.8 %)
- 412) M. Song, Z. Yang, A. Baird, E. Parada-Cabaleiro, Z. Zhang, Z. Zhao, and B. Schuller, "Audiovisual Analysis for Recognising Frustration during Game-Play: Introducing the Multimodal Game Frustration Database," in *Proceedings 8th biannual Conference on Affective Computing and Intelligent Interaction, ACII*, (Cambridge, UK), AAC, IEEE, September 2019. (acceptance rate: 40.8 %)
- 413) L. Stappen, N. Cummins, E.-M. Rathner, H. Baumeister, J. Dineley, and B. Schuller, "Context Modelling Using Hierarchical Attention Networks for Sentiment and Self-Assessed Emotion Detection in Spoken Narratives," in *Proceedings 44th IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2019*, (Brighton, UK), pp. 6680–6684, IEEE, IEEE, May 2019. (acceptance rate: 46.5 %)
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- sification,” in *Proceedings 26th European Signal Processing Conference (EUSIPCO)*, (Rome, Italy), pp. 977–981, EURASIP, IEEE, September 2018
- 424) S. Amiriparian, M. Gerczuk, S. Ottl, N. Cummins, S. Pugachevskiy, and B. Schuller, “Bag-of-Deep-Features: Noise-Robust Deep Feature Representations for Audio Analysis,” in *Proceedings 31st International Joint Conference on Neural Networks (IJCNN)*, (Rio de Janeiro, Brazil), pp. 1–7, INNS/IEEE, IEEE, July 2018
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- 430) N. Cummins, S. Amiriparian, S. Ottl, M. Gerczuk, M. Schmitt, and B. Schuller, “Multimodal Bag-of-Words for Cross Domains Sentiment Analysis,” in *Proceedings 43rd IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2018*, (Calgary, Canada), pp. 4954–4958, IEEE, IEEE, April 2018. (acceptance rate: 49.7%)
- 431) F. Demir, A. Sengur, N. Cummins, S. Amiriparian, and B. Schuller, “Low Level Texture Features for Snore Sound Discrimination,” in *Proceedings of the 40th Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2018*, (Honolulu, HI), pp. 413–416, IEEE, IEEE, July 2018
- 432) Y. Guo, J. Han, Z. Zhang, B. Schuller, and Y. Ma, “Exploring a New Method for Food Likability Rating Based on DT-CWT Theory,” in *Proceedings of the 20th ACM International Conference on Multimodal Interaction, ICMI*, (Boulder, CO), pp. 569–573, ACM, ACM, October 2018
- 433) G. Hagerer, N. Cummins, F. Eyben, and B. Schuller, “Robust Laughter Detection for Mobile Wellbeing Sensing on Wearable Devices,” in *Proceedings of the 8th International Conference on Digital Health, DH 2018*, (Lyon, France), pp. 156–157, ACM, ACM, April 2018
- 434) J. Han, Z. Zhang, M. Schmitt, Z. Ren, F. Ringeval, and B. Schuller, “Bags in Bag: Generating Context-Aware Bags for Tracking Emotions from Speech,” in *Proceedings INTERSPEECH 2018, 19th Annual Conference of the International Speech Communication Association*, (Hyderabad, India), pp. 3082–3086, ISCA, ISCA, September 2018. awarded a student travel grant (acceptance rate: 54%)
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- 437) J. Han, M. Schmitt, and B. Schuller, “You Sound Like Your Counterpart: Interpersonal Speech Analysis,” in *Proceedings 20th International Conference on Speech and Computer, SPECOM 2018* (A. Karpov, O. Jokisch, and R. Potapova, eds.), vol. 11096 of *LNC3*, (Leipzig, Germany), pp. 188–197, ISCA, Springer, September 2018
- 438) S. Hantke, C. Stemp, and B. Schuller, “Annotator Trustability-based Cooperative Learning Solutions for Intelligent Audio Analysis,” in *Proceedings INTERSPEECH 2018, 19th Annual Conference of the International Speech Communication Association*, (Hyderabad, India), pp. 3504–3508, ISCA, ISCA, September 2018. (acceptance rate: 54%)
- 439) S. Hantke, C. Cohrs, M. Schmitt, B. Tannert, F. Lütkebohmert, M. Detmers, H. Schelhowe, and B. Schuller, “Introducing an Emotion-Driven Assistance System for Cognitively Impaired Individuals,” in *Computers Helping People with Special Needs. Proceedings 16th International Conference on Computers Helping People with Special Needs, ICCHP* (K. Miesenberger and G. Kouroupetroglou, eds.), *LNC3*, (Linz, Austria), pp. 486–494, Springer, July 2018
- 440) S. Hantke, M. Schmitt, P. Tzirakis, and B. Schuller, “EAT – The ICMI 2018 Eating Analysis and Tracking Challenge,” in *Proceedings of the 20th ACM International Conference on Multimodal Interaction, ICMI*, (Boulder, CO), pp. 559–563, ACM, ACM, October 2018
- 441) S. Hantke, T. Appel, and B. Schuller, “The Inclusion of Gamification Solutions to Enhance User Enjoyment on Crowdsourcing Platforms,” in *Proceedings of the first Asian Conference on Affective Computing and Intelligent Interaction (ACII Asia 2018)*, (Beijing, China), AAAC, IEEE, May 2018. 6 pages
- 442) S. Hantke, T. Olenyi, C. Hausner, and B. Schuller, “VoILA: An Online Intelligent Speech Analysis and Collection Platform,” in *Proceedings of the first Asian Conference on Affective Computing and Intelligent Interaction (ACII Asia 2018)*, (Beijing, China), AAAC, IEEE, May 2018. 5 pages (invited as one of 8% best papers for the International Journal of Automation and Computing, Springer, oral acceptance rate: 29%)
- 443) S. Hantke, N. Cummins, and B. Schuller, “What is my dog trying to tell me? The automatic recognition of the context and perceived emotion of dog barks,” in *Proceedings 43rd IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2018*, (Calgary, Canada), pp. 5134–5138, IEEE, IEEE, April 2018. (acceptance rate: 49.7%)

- 444) D.-Y. Huang, S. Zhao, B. W. Schuller, H. Yao, J. Tao, M. Xu, L. Xie, Q. Huang, and J. Yang, "ASMMC-MMAC 2018: The Joint Workshop of 4th the Workshop on Affective Social Multimedia Computing and first Multi-Modal Affective Computing of Large-Scale Multimedia Data Workshop," in *Proceedings of the 26th ACM International Conference on Multimedia, MM 2018*, (Seoul, South Korea), pp. 2120–2121, ACM, ACM, October 2018
- 445) F. Jomrich, J. Schmid, S. Knapp, A. Höß, R. Steinmetz, and B. Schuller, "Analysing communication requirements for crowdsourced backend generation of HD Maps used in automated driving," in *Proceedings 2018 IEEE Vehicular Networking Conference (VNC 2018)*, (Taipei, Taiwan), IEEE, IEEE, December 2018. 8 pages
- 446) G. Keren, S. Sabato, and B. Schuller, "Fast Single-Class Classification and the Principle of Logit Separation," in *Proceedings International Conference on Data Mining, ICDM 2018*, (Singapore, Singapore), pp. 227–236, IEEE, IEEE, November 2018. (best student paper award, full paper acceptance rate: 8.86 %)
- 447) G. Keren, J. Han, and B. Schuller, "Scaling Speech Enhancement in Unseen Environments with Noise Embeddings," in *Proceedings The 5th International Workshop on Speech Processing in Everyday Environments, CHiME 2018, held in conjunction with Interspeech 2018*, (Hyderabad, India), pp. 25–29, ISCA, ISCA, September 2018
- 448) C. Kohlschein, D. Klischies, T. Meisen, B. W. Schuller, and C. J. Werner, "Automatic Processing of Clinical Aphasia Data collected during Diagnosis Sessions: Challenges and Prospects," in *Proceedings of Resources and Processing of linguistic, para-linguistic and extra-linguistic Data from people with various forms of cognitive/psychiatric impairments (RaPID-2 2018), satellite of the 11th Language Resources and Evaluation Conference (LREC 2018)* (D. Kokkinakis, ed.), (Miyazaki, Japan), pp. 11–18, ELRA, ELRA, May 2018
- 449) Y. Li, J. Tao, B. Schuller, S. Shan, D. Jiang, and J. Jia, "MEC 2017: Multimodal Emotion Recognition Challenge 2017," in *Proceedings of the first Asian Conference on Affective Computing and Intelligent Interaction (ACII Asia 2018)*, (Beijing, China), AAAC, IEEE, May 2018. 5 pages
- 450) V. Pandit, M. Schmitt, N. Cummins, F. Graf, L. Paletta, and B. Schuller, "How Good Is Your Model 'Really'? On 'Wildness' of the In-the-wild Speech-based Affect Recognisers," in *Proceedings 20th International Conference on Speech and Computer, SPECOM 2018* (A. Karpov, O. Jokisch, and R. Potapova, eds.), vol. 11096 of *LNC3*, (Leipzig, Germany), pp. 490–500, ISCA, Springer, September 2018
- 451) V. Pandit, N. Cummins, M. Schmitt, S. Hantke, F. Graf, L. Paletta, and B. Schuller, "Tracking Authentic and In-the-wild Emotions using Speech," in *Proceedings of the first Asian Conference on Affective Computing and Intelligent Interaction (ACII Asia 2018)*, (Beijing, China), AAAC, IEEE, May 2018. 6 pages (oral acceptance rate: 29 %)
- 452) E. Parada-Cabaleiro, G. Costantini, A. Batliner, A. Baird, and B. Schuller, "Categorical vs Dimensional Perception of Italian Emotional Speech," in *Proceedings INTERSPEECH 2018, 19th Annual Conference of the International Speech Communication Association*, (Hyderabad, India), pp. 3638–3642, ISCA, ISCA, September 2018. (acceptance rate: 54 %)
- 453) E. Parada-Cabaleiro, M. Schmitt, A. Batliner, and B. Schuller, "Musical-Linguistic Annotations of Il Lauro Secco," in *Proceedings 19th International Society for Music Information Retrieval Conference, ISMIR 2018*, (Paris, France), pp. 461–467, ISMIR, ISMIR, September 2018
- 454) E. Parada-Cabaleiro, M. Schmitt, A. Batliner, S. Hantke, G. Costantini, K. Scherer, and B. Schuller, "Identifying Emotions in Opera Singing: Implications of Adverse Acoustic Conditions," in *Proceedings 19th International Society for Music Information Retrieval Conference, ISMIR 2018*, (Paris, France), pp. 376–382, ISMIR, ISMIR, September 2018
- 455) E.-M. Rathner, J. Djamali, Y. Terhorst, B. Schuller, N. Cummins, G. Salamon, C. Hunger-Schoppe, and H. Baumeister, "How did you like 2017? Detection of language markers of depression and narcissism in personal narratives," in *Proceedings INTERSPEECH 2018, 19th Annual Conference of the International Speech Communication Association*, (Hyderabad, India), pp. 3388–3392, ISCA, ISCA, September 2018. (acceptance rate: 54 %)
- 456) E.-M. Rathner, Y. Terhorst, N. Cummins, B. Schuller, and H. Baumeister, "State of mind: Classification through self-reported affect and word use in speech.," in *Proceedings INTERSPEECH 2018, 19th Annual Conference of the International Speech Communication Association*, (Hyderabad, India), pp. 267–271, ISCA, ISCA, September 2018. (acceptance rate: 54 %)
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- 458) Z. Ren, N. Cummins, J. Han, S. Schnieder, J. Krajewski, and B. Schuller, "Evaluation of the Pain Level from Speech: Introducing a Novel Pain Database and Benchmarks," in *Proceedings 13th ITG Conference on Speech Communication*, vol. 282 of *ITG-Fachbericht*, (Oldenburg, Germany), pp. 56–60, ITG/VDE, IEEE/VDE, October 2018
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- 460) F. Ringeval, B. Schuller, M. Valstar, R. Cowie, H. Kaya, M. Schmitt, S. Amiriparian, N. Cummins, D. Lalanne, A. Michaud, E. Ciftci, H. Gülec, A. A. Salah, and M. Pantic, "AVEC 2018 Workshop and Challenge: Bipolar Disorder and Cross-Cultural Affect Recognition," in *Proceedings of the 8th International Workshop on Audio/Visual Emotion Challenge, AVEC'18, co-located with the 26th ACM International Conference on Multimedia, MM 2018* (F. Ringeval, B. Schuller, M. Valstar, R. Cowie, and M. Pantic, eds.), (Seoul, South Korea), pp. 3–13, ACM, ACM, October 2018
- 461) F. Ringeval, B. Schuller, M. Valstar, R. Cowie, and M. Pantic, "Summary for AVEC 2018: Bipolar Disorder and Cross-Cultural Affect Recognition," in *Proceedings of the 26th ACM International Conference on Multimedia, MM 2018*, (Seoul, South Korea), pp. 2111–2112, ACM, ACM, October 2018
- 462) O. Rudovic, Y. Utsumi, J. Lee, J. Hernandez, E. C. Ferrer, B. Schuller, and R. W. Picard, "CultureNet: A Deep Learning Approach for Engagement Intensity Estimation from Face Images of Children with Autism," in *Proceedings 31st IEEE/RSJ International Conference on Intelligent Robots and Systems, IROS*, (Madrid, Spain), pp. 339–346, IEEE/RSJ, IEEE, October 2018. (acceptance rate: 46.7 %)
- 463) J. Schmid, P. Heß, A. Höß, and B. Schuller, "Passive monitoring and geo-based prediction of mobile network vehicle-to-server communication," in *Proceedings of the 14th International Wireless Communications and Mo-*

- bile Computing Conference (IWCMC 2018)*, (Limassol, Cyprus), pp. 1483–1488, IEEE, IEEE, June 2018
- 464) A. Sengur, F. Demir, H. Lu, S. Amiriparian, N. Cummins, and B. Schuller, “Compact Bilinear Deep Features for Environmental Sound Recognition,” in *Proceedings International Conference on Artificial Intelligence and Data Mining, IDAP 2018*, (Malatya, Turkey), IEEE, IEEE, September 2018. 5 pages
- 465) B. Sertolli, N. Cummins, A. Sengur, and B. Schuller, “Deep End-to-End Representation Learning for Food Type Recognition from Speech,” in *Proceedings of the 20th ACM International Conference on Multimodal Interaction, ICMI*, (Boulder, CO), pp. 574–578, ACM, ACM, October 2018
- 466) S. Song, S. Zhang, B. Schuller, L. Shen, and M. Valstar, “Noise Invariant Frame Selection: A Simple Method to Address the Background Noise Problem for Text-Independent Speaker Verification,” in *Proceedings 31st International Joint Conference on Neural Networks (IJCNN)*, (Rio de Janeiro, Brazil), pp. 1–8, INNS/IEEE, IEEE, July 2018
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- 509) E. Parada-Cabaleiro, A. Baird, A. Batliner, N. Cummins, S. Hantke, and B. Schuller, “The Perception of Emotions in Noisified Non-Sense Speech,” in *Proceedings INTERSPEECH 2017, 18th Annual Conference of the International Speech Communication Association*, (Stockholm, Sweden), pp. 3246–3250, ISCA, ISCA, August 2017. (acceptance rate: 51%)
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- 526) Y. Zhang, W. McGehee, M. Schmitt, F. Eyben, and B. Schuller, “A Paralinguistic Approach To Holistic Speaker Diarisation – Using Age, Gender, Voice Likability and Personality Traits,” in *Proceedings of the 25th ACM International Conference on Multimedia, MM 2017*, (Mountain View, CA), pp. 387–392, ACM, ACM, October 2017. (acceptance rate: 28%)
- 527) Y. Zhang, F. Weninger, and B. Schuller, “Cross-Domain Classification of Drowsiness in Speech: The Case of Alcohol Intoxication and Sleep Deprivation,” in *Proceedings INTERSPEECH 2017, 18th Annual Conference of the International Speech Communication Association*, (Stockholm, Sweden), pp. 3152–3156, ISCA, ISCA, August 2017. (acceptance rate: 51%)
- 528) H. S. O. Strömfelt, Y. Zhang, and B. Schuller, “Emotion-Augmented Machine Learning: Overview of an Emerging Domain,” in *Proceedings 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%)
- 529) 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%)
- 530) 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%)
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- 533) B. Schuller and M. McTear, “Sociocognitive Language Processing – Emphasising the Soft Factors,” in *Proceedings of the Seventh International Workshop on Spoken Dialogue Systems (IWSDS)*, (Saariselkä, Finland), January 2016. 6 pages
- 534) B. Schuller, S. Steidl, A. Batliner, J. Hirschberg, J. K. Burgoon, A. Baird, A. Elkins, Y. Zhang, E. Coutinho, and K. Evanini, “The INTERSPEECH 2016 Computational Paralinguistics Challenge: Deception, Sincerity & Native Language,” in *Proceedings INTERSPEECH 2016, 17th Annual Conference of the International Speech Communication Association*, (San Francisco, CA), pp. 2001–2005, ISCA, ISCA, September 2016. (acceptance rate: 50%)
- 535) 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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- 538) 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%)
- 539) 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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- 542) B. Dong, Z. Zhang, and B. Schuller, “Empirical Mode Decomposition: A Data-Enrichment Perspective on Speech Emotion Recognition,” in *Proceedings 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%)
- 543) J. Guo, K. Qian, H. Xu, C. Janott, B. W. Schuller, and S. Matsuoka, “GPU-Based Fast Signal Processing for Large Amounts of Snore Sound Data,” in *Proceedings IEEE 5th Global Conference on Consumer Electronics*,

- GCCE 2016*, (Kyoto, Japan), pp. 523–524, IEEE, IEEE, October 2016. (acceptance rate: 66 %)
- 544) S. Hantke, A. Batliner, and B. Schuller, “Ethics for Crowdsourced Corpus Collection, Data Annotation and its Application in the Web-based Game iHEARu-PLAY,” in *Proceedings 1st International Workshop on ETHics In Corpus Collection, Annotation and Application (ETHICA² 2016)*, satellite of the 10th Language Resources and Evaluation Conference (*LREC 2016*) (L. Devillers, B. Schuller, E. Mower Provost, P. Robinson, J. Mariani, and A. Delaborde, eds.), (Portoroz, Slovenia), pp. 54–59, ELRA, ELRA, May 2016. (oral acceptance rate: 45 %)
- 545) 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
- 546) G. Keren, J. Deng, J. Pohjalainen, and B. Schuller, “Convolutional Neural Networks and Data Augmentation for Classifying Speakers’ Native Language,” in *Proceedings INTERSPEECH 2016, 17th Annual Conference of the International Speech Communication Association*, (San Francisco, CA), pp. 2393–2397, ISCA, ISCA, September 2016. (acceptance rate: 50 %)
- 547) G. Keren and B. Schuller, “Convolutional RNN: an Enhanced Model for Extracting Features from Sequential Data,” in *Proceedings 2016 International Joint Conference on Neural Networks (IJCNN) as part of the IEEE World Congress on Computational Intelligence (IEEE WCCI)*, (Vancouver, Canada), pp. 3412–3419, INNS/IEEE, IEEE, July 2016
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- 551) 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
- 552) A. E.-D. Mousa and B. Schuller, “Deep Bidirectional Long Short-Term Memory Recurrent Neural Networks for Grapheme-to-Phoneme Conversion utilizing Complex Many-to-Many Alignments,” in *Proceedings INTERSPEECH 2016, 17th Annual Conference of the International Speech Communication Association*, (San Francisco, CA), pp. 2836–2840, ISCA, ISCA, September 2016. (acceptance rate: 50 %)
- 553) F. B. Pokorný, 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 %)
- 554) F. B. Pokorný, R. Peharz, W. Roth, M. Zohrer, F. Pernkopf, P. B. Marschik, and B. W. Schuller, “Manual Versus Automated: The Challenging Routine of Infant Vocalisation Segmentation in Home Videos to Study Neuro(mal)development,” in *Proceedings INTERSPEECH 2016, 17th Annual Conference of the International Speech Communication Association*, (San Francisco, CA), pp. 2997–3001, ISCA, ISCA, September 2016. (acceptance rate: 50 %)
- 555) K. Qian, C. Janott, Z. Zhang, C. Heiser, and B. Schuller, “Wavelet Features for Classification of VOTE Snore Sounds,” in *Proceedings 41st IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2016*, (Shanghai, China), pp. 221–225, IEEE, IEEE, March 2016. (acceptance rate: 45 %)
- 556) 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 %)
- 557) 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 %)
- 558) 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 %)
- 559) 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
- 560) H. Sagha, J. Deng, M. Gavryukova, J. Han, and B. Schuller, “Cross Lingual 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, China), pp. 5800–5804, IEEE, IEEE, March 2016. (acceptance rate: 45 %)
- 561) 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 %)
- 562) 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 6th International Workshop on Emotion and Sentiment Anal-*

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- 563) 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)
- 564) 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%)
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- 566) 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, China), pp. 2124–2128, IEEE, IEEE, March 2016. (acceptance rate: 45%)
- 567) 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, China), pp. 5200–5204, IEEE, IEEE, March 2016. winner of the IEEE Spoken Language Processing Student Travel Grant 2016 (acceptance rate: 45%)
- 568) G. Trigeorgis, M. A. Nicolaou, B. Schuller, and S. Zafeiriou, “Deep Canonical Time Warping,” in *Proceedings IEEE Conference on Computer Vision and Pattern Recognition, CVPR 2016*, (Las Vegas, NV), pp. 5110–5118, IEEE, IEEE, June 2016. (acceptance rate: ~25%)
- 569) 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 International 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
- 570) M. Valstar, C. Pelachaud, D. Heylen, A. Cafaro, S. Dermouche, A. Ghitulescu, E. André, T. Baur, 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
- 571) 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%)
- 572) 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
- 573) R. Wegener, C. Kohlschein, S. Jeschke, and B. Schuller, “Automatic Detection of Textual Triggers of Reader Emotion in Short Stories,” in *Proceedings 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%)
- 574) 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%)
- 575) 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%)
- 576) 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
- 577) 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, China), pp. 5185–5189, IEEE, IEEE, March 2016. (acceptance rate: 45%)
- 578) 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%)
- 579) Y. Zhang, F. Weninger, A. Batliner, F. Hönl, 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
- 580) 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%)

- 581) Y. Zhang, Y. Zhou, J. Shen, and B. Schuller, "Semi-autonomous Data Enrichment Based on Cross-task Labeling of Missing Targets for Holistic Speech Analysis," in *Proceedings 41st IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2016*, (Shanghai, China), pp. 6090–6094, IEEE, IEEE, March 2016. (acceptance rate: 45%)
- 582) 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
- 583) 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
- 584) 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 *Proceedings 6th biannual Conference on Affective Computing and Intelligent Interaction (ACII 2015)*, (Xi'an, China), pp. 470–476, AAAC, IEEE, September 2015. invited for the Special Session on Most Influential Articles in IEEE Transactions on Affective Computing
- 585) 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. Piana, 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%)
- 586) 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%)
- 587) B. Schuller, S. Steidl, A. Batliner, S. Hantke, F. Hönig, J. R. Orozco-Arroyave, E. Nöth, Y. Zhang, and F. Wenginger, "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%)
- 588) L. Azais, 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, Germany), pp. 2519–2523, ISCA, ISCA, September 2015. (acceptance rate: 51%)
- 589) 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 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
- 590) 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
- 591) F. Eyben, B. Huber, E. Marchi, D. Schuller, and B. Schuller, "Robust Real-time Affect Analysis and Speaker Characterisation on Mobile Devices," in *Proceedings 6th biannual Conference on Affective Computing and Intelligent Interaction (ACII 2015)*, (Xi'an, China), pp. 778–780, AAAC, IEEE, September 2015. (acceptance rate: 55%)
- 592) S. Feraru, D. Schuller, and B. Schuller, "Cross-Language Acoustic Emotion Recognition: An Overview and Some Tendencies," in *Proceedings 6th biannual Conference on Affective Computing and Intelligent Interaction (ACII 2015)*, (Xi'an, China), pp. 125–131, AAAC, IEEE, September 2015. (acceptance rate oral: 28%)
- 593) 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
- 594) S. Hantke, F. Eyben, T. Appel, and B. Schuller, "iHEARUPLAY: Introducing a game for crowdsourced data collection for affective computing," in *Proceedings 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, China), pp. 891–897, AAAC, IEEE, September 2015. (acceptance rate: 60%)
- 595) 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
- 596) E. Marchi, F. Vesperini, F. Wenginger, 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
- 597) E. Marchi, B. Schuller, S. Baron-Cohen, O. Golan, S. Bölte, P. Arora, and R. Hüb-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%)
- 598) 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 In-*

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- 599) A. Metallinou, M. Wöllmer, A. Katsamanis, F. Eyben, B. Schuller, and S. Narayanan, “Context-Sensitive Learning for Enhanced Audiovisual Emotion Classification (Extended Abstract),” in *Proceedings 6th biannual Conference on Affective Computing and Intelligent Interaction (ACII 2015)*, (Xi’an, China), pp. 463–469, AAAC, IEEE, September 2015. invited for the Special Session on Most Influential Articles in IEEE Transactions on Affective Computing
- 600) 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 (IM-FAR 2015)*, (Salt Lake City, UT), International Society for Autism Research (INSAR), INSAR, May 2015. 1 page
- 601) 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
- 602) F. Pokorny, F. Graf, F. Pernkopf, and B. Schuller, “Detection of Negative Emotions in Speech Signals Using Bags-of-Audio-Words,” in *Proceedings 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, China), pp. 879–884, AAAC, IEEE, September 2015. (acceptance rate: 60%)
- 603) 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%)
- 604) 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%)
- 605) 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%)
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- 979) 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, The Netherlands), ISMIR, ISMIR, August 2010. 3 pages (acceptance rate: 61 %)
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- 980) 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
- 981) M. Schmitt and B. Schuller, "Deep Recurrent Neural Networks for Emotion Recognition in Speech," in *Proceedings 44. Jahrestagung für Akustik, DAGA 2008*, (Munich, Germany), DEGA, DEGA, March 2018. 4 pages, invited contribution, Structured Session Deep Learning for Audio
- 982) 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
- 983) 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
- 984) 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 including the 35th German Annual Conference on Acoustics, NAG/DAGA 2009*, (Rotterdam, The Netherlands), pp. 361–364, Acoustical Society of the Netherlands, DEGA, DEGA, March 2009. invited contribution
- 985) 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

- 986) 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
- 987) 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
- 988) 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
- 989) 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%)
- 990) 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
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- 992) 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
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- 994) 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%)
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- 997) Z. Zhang, F. Wenginger, 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
- 998) 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
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- 1001) F. Wenginger, 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
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- 1003) F. Wenginger 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%)
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- 1005) M. Wöllmer, N. Klebert, and B. Schuller, "Switching Linear Dynamic Models for Recognition of Emotionally Colored and Noisy Speech," in *Proceedings 9th ITG Conference on Speech Communication*, vol. 225 of *ITG-Fachbericht*, (Bochum, Germany), ITG, VDE-Verlag, October 2010. invited contribution, Special Session Bayesian Methods for Speech Enhancement and Recognition, 4 pages
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- 1010) M. Grimm, K. Kroschel, B. Schuller, G. Rigoll, and T. Moosmayr, “Acoustic Emotion Recognition in Car Environment Using a 3D Emotion Space Approach,” in *Proceedings 33. Jahrestagung für Akustik, DAGA 2007*, (Stuttgart, Germany), pp. 313–314, DEGA, DEGA, March 2007. invited contribution, Structured Session Session Sprachakustik im Kraftfahrzeug
- 1011) G. Rigoll, R. Müller, and B. Schuller, “Speech Emotion Recognition Exploiting Acoustic and Linguistic Information Sources,” in *Proceedings 10th International Conference Speech and Computer, SPECOM 2005* (G. Kokkinakis, ed.), vol. 1, (Patras, Greece), pp. 61–67, October 2005. invited contribution
- Forewords (7):*
- 1012) B. Schuller, “Preface,” in *Proceedings of the 8th China Conference on Sound and Music Technology, Selected Papers from CSMT* (X. Shao, K. Qian, L. Zhou, X. Wang, and Z. Zhao, eds.), vol. 761 of *Lecture Notes in Electrical Engineering*, (Taiyuan, China), pp. V–VI, Shanghai Computer Music Association, Springer, November 2021
- 1013) B. Schuller, “Computers Hearing Children’s Cries and Pathologies – A Foreword,” in *Acoustic Analysis of Pathologies From Infancy to Young Adulthood* (A. Neustein and H. A. Patil, eds.), vol. 7 of *De Gruyter Series in Speech Technology and Text Analytics in Medicine and Healthcare*, pp. VII–X, DeGruyter, 2020
- 1014) J. Tao, B. Schuller, and N. Campbell, “ACII Asia 2018 – AAAC Asian Conference on Affective Computing and Intelligent Interaction in Beijing,” in *Proceedings first Asian Conference on Affective Computing and Intelligent Interaction (ACII Asia 2018)*, (Beijing, China), AAAC, IEEE, May 2018. 1 page
- 1015) B. Schuller, “A decade of encouraging speech processing “outside of the box” – a Foreword,” in *Recent Advances in Nonlinear Speech Processing – 7th International Conference, NOLISP 2015, Vietri sul Mare, Italy, May 18–19, 2015, Proceedings* (A. Esposito, M. Faundez-Zanuy, A. M. Esposito, G. Cordasco, T. Drugman, J. Solé-Casals, and C. F. Morabito, eds.), vol. 48, *Smart Innovation, Systems and Technologies of Smart Innovation Systems and Technologies*, pp. 3–4, Springer, 2015. invited
- 1016) R. Cowie, Q. Ji, J. Tao, J. Gratch, and B. Schuller, “Foreword ACII 2015 – Affective Computing and Intelligent Interaction at Xi’an,” in *Proceedings 6th biannual Conference on Affective Computing and Intelligent Interaction (ACII 2015)*, (Xi’an, China), AAAC, IEEE, September 2015. 2 pages
- 1017) B. Schuller, “Foreword,” in *Sentic Computing – A Common-Sense-Based Framework for Concept-Level Sentiment Analysis* (E. Cambria and A. Hussain, eds.), pp. v–vi, Springer, 2 ed., 2015. invited foreword
- 1018) B. Schuller, “Supervisor’s Foreword,” in *Real-time Speech and Music Classification by Large Audio Feature Space Extraction* (F. Eyben, ed.), Springer, 2015. invited foreword, 2 pages
- Reviewed Technical Newsletter Contributions (5):*
- 1019) F. Eyben and B. Schuller, “openSMILE:) The Munich Open-Source Large-Scale Multimedia Feature Extractor,” *ACM SIGMM Records*, vol. 6, December 2014
- 1020) B. Schuller, S. Steidl, and A. Batliner, “The INTERSPEECH 2013 Computational Paralinguistics Challenge – A Brief Review,” *Speech and Language Processing Technical Committee (SLTC) Newsletter*, November 2013
- 1021) B. Schuller, S. Steidl, A. Batliner, F. Schiel, and J. Krajewski, “The INTERSPEECH 2011 Speaker State Challenge – A review,” *Speech and Language Processing Technical Committee (SLTC) Newsletter*, February 2012
- 1022) B. Schuller and L. Devillers, “Emotion 2010 – On Recent Corpora for Research on Emotion and Affect,” *ELRA Newsletter, LREC 2010 Special Issue*, vol. 15, no. 1–2, pp. 18–18, 2010
- 1023) B. Schuller, S. Steidl, A. Batliner, and F. Jurcicek, “The INTERSPEECH 2009 Emotion Challenge – Results and Lessons Learnt,” *Speech and Language Processing Technical Committee (SLTC) Newsletter*, October 2009
- Technical Reports and Preprints (104):*
- 1024) B. W. Schuller, A. Batliner, C. Bergler, C. Mascolo, J. Han, I. Lefter, H. Kaya, S. Amiriparian, A. Baird, L. Stappen, S. Ottl, M. Gerczuk, P. Tzirakis, C. Brown, J. Chauhan, A. Grammenos, A. Hasthanasombat, D. Spathis, T. Xia, P. Cicuta, M. R. Leon J. J. Zwerts, J. Treep, and C. Kaandorp, “The INTERSPEECH 2021 Computational Paralinguistics Challenge: COVID-19 Cough, COVID-19 Speech, Escalation & Primates,” *arxiv.org*, February 2021. 5 pages
- 1025) A. Akman, H. Coppock, A. Gaskell, P. Tzirakis, L. Jones, and B. W. Schuller, “Evaluating the COVID-19 Identification ResNet (CideR) on the INTERSPEECH COVID-19 from Audio Challenges,” *arxiv.org*, July 2021. 5 pages
- 1026) S. Amiriparian, T. Hübner, M. Gerczuk, S. Ottl, and B. W. Schuller, “DeepSpectrumLite: A Power-Efficient Transfer Learning Framework for Embedded Speech and Audio Processing from Decentralised Data,” *arxiv.org*, April 2021. 5 pages
- 1027) S. Amiriparian, A. Sokolov, I. Aslan, L. Christ, M. Gerczuk, T. Hübner, D. Lamanov, M. Milling, S. Ottl, I. Poduremennykh, E. Shuranov, and B. W. Schuller, “On the Impact of Word Error Rate on Acoustic-Linguistic Speech Emotion Recognition: An Update for the Deep Learning Era,” *arxiv.org*, April 2021. 5 pages
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- 1029) A. Baird, L. Stappen, L. Christ, L. Schumann, E.-M. Messner, and B. W. Schuller, “A Physiologically-Adapted Gold Standard for Arousal during Stress,” *arxiv.org*, July 2021. 5 pages
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- 1031) J. Dineley, G. Lavelle, D. Leightley, F. Matcham, S. Siddi, M. T. Peñarrubia-María, K. M. White, A. Ivan, C. Oetzmann, S. Simblett, E. Dawe-Lane, S. Bruce, D. Stahl, J. M. Haro, T. Wykes, V. A. Narayan, M. Hotopf, B. W. Schuller, N. Cummins, and The RADAR-CNS Consortium, “Remote smartphone-based speech collection: acceptance and barriers in individuals with major depressive disorder,” *arxiv.org*, April 2021. 5 pages
- 1032) M. Gerczuk, S. Amiriparian, S. Ottl, and B. Schuller, “EmoNet: A Transfer Learning Framework for Multi-Corpus Speech Emotion Recognition,” *arxiv.org*, March 2021. 18 pages
- 1033) X. He, J. Chen, G. Rizos, and B. Schuller, “An Improved StarGAN for Emotional Voice Conversion: Enhancing Voice Quality and Data Augmentation,” *arxiv.org*, July 2021. 5 pages
- 1034) S. Latif, R. Rana, S. Khalifa, R. Jurdak, J. Qadir, and B. Schuller, “Survey of Deep Representation Learning for Speech Emotion Recognition,” *techrxiv.org*, September 2021. 20 pages
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- 1036) P. Ma, R. Schonburg Carrillo de Mira, S. Petridis, B. Schuller, and M. Pantic, “LiRA: Learning Visual Speech Representations from Audio through Self-supervision,” *arxiv.org*, June 2021. 5 pages
- 1037) A. Mallol-Ragolta, H. Cuesta, E. Gómez, and B. W. Schuller, “EIHw-MTG DiCOVA 2021 Challenge System Report,” *arxiv.org*, October 2021. 4 pages
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- 1041) Z. Ren, Y. Chang, and B. W. Schuller, “The EIHw-GLAM Deep Attentive Multi-model Fusion System for Cough-based COVID-19 Recognition in the DiCOVA 2021 Challenge,” *arxiv.org*, August 2021. 3 pages
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