

# PUBLICATIONS BY Adria Mallol-Ragolta

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## A) BOOKS

### Contributions to Books (1):

- 1) N. Cummins, Z. Ren, A. Mallol-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

## B) REFEREED JOURNAL PAPERS (10)

- 2) K. D. Bartl-Pokorny, A. Mallol-Ragolta, A. A. Spiesberger, A. Semertzidou, J. Löchner, F. B. Pokorny, and B. W. Schuller, "Hey smartphone, am I ill?" Artificial intelligence for disease detection from the voice," *Frontiers for Young Minds*, vol. 13, June 2025. 8 pages, Article ID 1509215
- 3) M. Keinert, S. Pistrosch, A. Mallol-Ragolta, B. Schuller, and M. Berking, "Facial Emotion Recognition of 16 Distinct Emotions from Smartphone Video: Comparing Machine-Learning vs Human Performance," *Journal of Medical Internet Research*, vol. 27, May 2025. 17 pages, Article ID e68942
- 4) A. Mallol-Ragolta and B. Schuller, "Coupling Sentiment and Arousal Analysis Towards an Affective Dialogue Manager," *IEEE Access*, vol. 12, pp. 20654–20662, February 2024
- 5) A. Triantafyllopoulos, A. Kathan, A. Baird, L. Christ, A. Gebhard, M. Gerczuk, V. Karas, T. Hübner, X. Jing, S. Liu, A. Mallol-Ragolta, M. Milling, S. Ottl, A. Semertzidou, S. T. Rajamani, T. Yan, Z. Yang, J. Dineley, S. Amiriparian, K. Bartl-Pokorny, A. Batliner, F. Pokorny, and B. Schuller, "HEAR4Health: A blueprint for making computer audition a staple of modern healthcare," *Frontiers in Digital Health, section Digital Health Communication*, vol. 5, September 2023. 12 pages, Article ID 1196079
- 6) A. Mallol-Ragolta, A. Semertzidou, M. Pateraki, and B. Schuller, "Outer Product-Based Fusion of Smartwatch Sensor Data for Human Activity Recognition," *Frontiers in Computer Science, section Mobile and Ubiquitous Computing*, vol. 4, March 2022. 10 pages, Article ID 796866. 2022 Outstanding Article Award
- 7) S. Liu, A. Mallol-Ragolta, E. Parada-Cabaleiro, K. Qian, X. Jing, A. Kathan, B. Hu, and B. Schuller, "Audio Self-supervised Learning: A Survey," *Patterns*, vol. 3, December 2022. 28 pages, Article ID 100616
- 8) S. Liu, A. Mallol-Ragolta, T. Yan, K. Qian, E. Parada-Cabaleiro, B. Hu, and B. Schuller, "Capturing Time Dynamics from Speech using Neural Networks for Surgical Masks Detection," *IEEE Journal of Biomedical and Health Informatics*, vol. 26, pp. 4291–4302, May 2022
- 9) M. M. Mohamed, M. A. Nessiem, A. Batliner, C. Bergler, S. Hantke, M. Schmitt, A. Baird, A. Mallol-Ragolta, V. Karas, S. Amiriparian, and B. Schuller, "Face Mask Recognition from Audio: The MASC Database and an Overview on the Mask Challenge," *Pattern Recognition*, vol. 122, February 2022. 11 pages, Article ID 108361
- 10) M. Song, A. Mallol-Ragolta, E. Parada-Cabaleiro, Z. Yang, S. Liu, Z. Ren, Z. Zhao, and B. Schuller, "Frustration Recognition from Speech During Game Interaction Using Wide Residual Networks," *Virtual Reality & Intelligent Hardware*, vol. 3, pp. 76–86, February 2021

- 11) S. Amiriparian, J. Han, M. Schmitt, A. Baird, A. Mallol-Ragolta, M. Milling, M. Gerczuk, and B. Schuller, "Synchronisation in Interpersonal Speech," *Frontiers in Robotics and AI, section Humanoid Robotics, Special Issue on Computational Approaches for Human-Human and Human-Robot Social Interactions*, vol. 6, November 2019. 10 pages, Article ID 116

## C) REFEREED CONFERENCE PROCEEDINGS

### Contributions to Conference Proceedings (32):

- 12) A. Mallol-Ragolta and B. Schuller, "ProtoCLAP – Prototypical Contrastive Language-Audio Pretraining," in *Proceedings of the 19th Biannual Automatic Speech Recognition and Understanding Workshop, ASRU 2025*, (Honolulu, HI, USA), IEEE, IEEE, December 2025. 7 pages, to appear
- 13) A. Mallol-Ragolta, M. Gonzalez-Machorro, R. von Heynitz, K. Scherzer, I. Cordts, and B. Schuller, "Detection of Amyotrophic Lateral Sclerosis with Computer Audition: An Impact Analysis of Different Speech Tasks," in *Proceedings of the 47th Annual International Conference of the Engineering in Medicine & Biology Society, EMBC 2025*, (Copenhagen, Denmark), EMBS, IEEE, July 2025. 5 pages, to appear
- 14) A. Mallol-Ragolta, M. Gonzalez-Machorro, R. von Heynitz, K. Scherzer, I. Cordts, and B. Schuller, "Early Detection of ALS in Absence of Speech Impairments with Computer Audition," in *Proceedings of the 23rd International Conference on Artificial Intelligence in Medicine, AIME 2025*, (Pavia, Italy), pp. 273–282, Society for Artificial Intelligence in Medicine (AIME), Springer, June 2025
- 15) A. Mallol-Ragolta, A. Spiesberger, and B. Schuller, "Face Mask Type and Coverage Area Recognition from Speech with Prototypical Networks," in *Proceedings of the 7th Iberian Speech and Language Technologies Conference, IberSPEECH 2024*, (Aveiro, Portugal), pp. 131–135, RTTH/SIG-IL, ISCA, November 2024
- 16) A. Mallol-Ragolta, A. Spiesberger, A. Barba Salvador, and B. Schuller, "Prototypical Networks for Speech Emotion Recognition in Spanish," in *Proceedings of the 7th Iberian Speech and Language Technologies Conference, IberSPEECH 2024*, (Aveiro, Portugal), pp. 221–225, RTTH/SIG-IL, ISCA, November 2024
- 17) A. Mallol-Ragolta, M. Milling, and B. Schuller, "Multi-Triple Loss-Based Models for Categorical Depression Recognition from Speech," in *Proceedings of the 7th Iberian Speech and Language Technologies Conference, IberSPEECH 2024*, (Aveiro, Portugal), pp. 31–35, RTTH/SIG-IL, ISCA, November 2024
- 18) A. Mallol-Ragolta, A. Spiesberger, A. Triantafyllopoulos, and B. Schuller, "Personalised Anomaly Detectors and Prototypical Representations for Relapse Detection from Wearable-Based Digital Phenotyping," in *Workshop Proceedings of the 49th International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2024*, (Seoul, Korea), pp. 103–104, IEEE, IEEE, April 2024
- 19) A. Spiesberger, A. Mallol-Ragolta, A. Triantafyllopoulos, and B. Schuller, "Towards Predicting Menstrual Cycle Phases Exploiting Paralinguistic Features," in *Proceedings of the 46th Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2024*, (Orlando, FL, USA), EMBS, IEEE, July 2024. 4 pages
- 20) A. Mallol-Ragolta, N. Urbach, S. Liu, A. Batliner, and B. Schuller, "The MASCFLICHT Corpus: Face Mask Type and Coverage Area Recognition from Speech," in *Proceedings of the 24th Annual Conference of the International Speech Communication Association, INTERSPEECH 2023*, (Dublin, Ireland), pp. 2358–2362, ISCA, ISCA, August 2023. 5 pages
- 21) S. Liu, A. Mallol-Ragolta, and B. Schuller, "COVID-19 Detection from Speech in Noisy Conditions," in *Proceedings of the 48th International Conference on Acoustics, Speech, and Signal*

- Processing, ICASSP 2023*, (Rhodes, Greece), IEEE, IEEE, June 2023. 5 pages
- 22) S. Pompe, A. Mallol-Ragolta, N. Schauer, and B. Schuller, "Exploring Shapely Values for Blood Glucose Level Prediction from Speech," in *Proceedings of the 15th ITG Conference on Speech Communication, ITG 2023*, (Aachen, Germany), pp. 81–85, VDE, IEEE, September 2023
  - 23) A. Mallol-Ragolta, S. Liu, and B. Schuller, "COVID-19 Detection Exploiting Self-Supervised Learning Representations of Respiratory Sounds," in *Proceedings of the International Conference on Biomedical and Health Informatics, BHI 2022*, (Ioannina, Greece – Hybrid Event), EMBS, IEEE, September 2022. 4 pages (acceptance rate: 31.3 %)
  - 24) A. Mallol-Ragolta, H. Cuesta, E. Gómez, and B. Schuller, "Multi-Type Outer Product-Based Fusion of Respiratory Sounds for Detecting COVID-19," in *Proceedings of the 23rd Annual Conference of the International Speech Communication Association, INTERSPEECH 2022*, (Incheon, Korea – Hybrid Event), pp. 2163–2167, ISCA, ISCA, September 2022. (acceptance rate: 50 %)
  - 25) A. Mallol-Ragolta, F. B. Pokorny, K. D. Bartl-Pokorny, A. Semertzidou, and B. Schuller, "Triplet Loss-Based Models for COVID-19 Detection from Vocal Sounds," in *Proceedings of the 44th Annual International Conference of the Engineering in Medicine & Biology Society, EMBC 2022*, (Glasgow, UK), pp. 998–1001, EMBS, IEEE, July 2022
  - 26) A. Mallol-Ragolta, M. Maniadakis, G. Papadopoulos, and B. Schuller, "Time Series Representation using TS2Vec on Smartwatch Sensor Data for Fatigue Estimation," in *Proceedings of the 13th International Conference on Applied Human Factors and Ergonomics, track Human Factors and Systems Interaction, AHFE 2022*, vol. 52, (New York, NY, USA), pp. 123–129, AHFE International Conference, AHFE Open Access, July 2022
  - 27) A. Mallol-Ragolta, I. Varlamis, M. Pateraki, M. Lourakis, G. Athanassiou, M. Maniadakis, K. Papoutsakis, T. Papadopoulos, A. Semertzidou, N. Cummins, B. Schuller, I.-A. Karolos, C. Pikridas, P. Patias, L. Vantolas, L. Kallipolitis, F. Werner, A. Ascolese, and V. Nitti, "sustAGE 1.0 – First Prototype, Use Cases, and Usability Evaluation," in *Proceedings of the 7th International Conference on Human Interaction & Emerging Technologies: Artificial Intelligence & Future Applications, IHET-AI 2022*, vol. 23, (Lausanne, Switzerland – Virtual Event), AHFE International Conference, AHFE Open Access, April 2022. 10 pages
  - 28) V. Karas, M. K. Tellamekala, A. Mallol-Ragolta, M. Valstar, and B. Schuller, "Time-Continuous Audiovisual Fusion with Recurrence vs. Attention for In-The-Wild Affect Recognition," in *Workshop Proceedings of the Conference on Computer Vision and Pattern Recognition, CVPR 2022*, (New Orleans, LA, USA), pp. 2382–2391, Computer Vision Foundation, IEEE, June 2022
  - 29) M. Milling, I. Aslan, M. Berghofer, A. Mallol-Ragolta, U. Kunwar, and B. Schuller, "Online Personalisation of Deep Mobile Activity Recognisers," in *Proceedings of the 7th International Workshop on Sensor-Based Activity Recognition and Artificial Intelligence, iWOAR 2022*, (Rostock, Germany), Fraunhofer IGD and University of Rostock, ACM, September 2022. 7 pages
  - 30) B. Schuller, A. Batliner, S. Amiriparian, C. Bergler, M. Gerczuk, N. Holz, P. Larrouy-Maestri, S. Bayerl, K. Riedhammer, A. Mallol-Ragolta, M. Pateraki, H. Coppock, I. Kiskin, M. Sinka, and S. Roberts, "The ACM Multimedia 2022 Computational Paralinguistics Challenge: Vocalisations, Stuttering, Activity, & Mosquitoes," in *Proceedings of the 30th International Conference on Multimedia, MM 2022*, (Lisbon, Portugal), pp. 7120–7124, ACM, ACM, October 2022
  - 31) A. Mallol-Ragolta, A. Semertzidou, M. Pateraki, and B. Schuller, "harAGE: A Novel Multimodal Smartwatch-based Dataset for Human Activity Recognition," in *Proceedings of the 16th International Conference on Automatic Face and Gesture Recognition, FG 2021*, (Jodhpur, India – Virtual Event), IEEE, IEEE, December 2021. 7 pages (acceptance rate: 35 %)
  - 32) A. Mallol-Ragolta, S. Liu, and B. Schuller, "The Filtering Effect of Face Masks in their Detection from Speech," in *Proceedings of the 43rd Annual International Conference of the Engineering in Medicine & Biology Society, EMBC 2021*, (Guadalajara, Mexico – Virtual Event), pp. 2079–2082, EMBS, IEEE, October 2021
  - 33) A. Mallol-Ragolta, H. Cuesta, E. Gómez, and B. Schuller, "Cough-based COVID-19 Detection with Contextual Attention Convolutional Neural Networks and Gender Information," in *Proceedings of the 22nd Annual Conference of the International Speech Communication Association, INTERSPEECH 2021*, (Brno, Czechia – Hybrid Event), pp. 941–945, ISCA, ISCA, September 2021. (acceptance rate: 49 %)
  - 34) S. Liu, A. Mallol-Ragolta, and B. Schuller, "COVID-19 Detection with a Novel Multi-Type Deep Fusion Method using Breathing and Coughing Information," in *Proceedings of the 43rd Annual International Conference of the Engineering in Medicine & Biology Society, EMBC 2021*, (Guadalajara, Mexico – Virtual Event), pp. 1840–1843, EMBS, IEEE, October 2021
  - 35) S. Tirunellai Rajamani, K. Tirunellai Rajamani, A. Mallol-Ragolta, S. Liu, and B. Schuller, "A Novel Attention-based Gated Recurrent Unit and its Efficacy in Speech Emotion Recognition," in *Proceedings of the 46th International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2021*, (Toronto, Canada – Virtual Event), pp. 6294–6298, IEEE, IEEE, June 2021. (acceptance rate: 48 %)
  - 36) A. Mallol-Ragolta, N. Cummins, and B. Schuller, "An Investigation of Cross-Cultural Semi-Supervised Learning for Continuous Affect Recognition," in *Proceedings of the 21st Annual Conference of the International Speech Communication Association, INTERSPEECH 2020*, (Shanghai, China – Virtual Event), pp. 511–515, ISCA, ISCA, October 2020. (acceptance rate: 47 %)
  - 37) A. Mallol-Ragolta, S. Liu, N. Cummins, and B. Schuller, "A Curriculum Learning Approach for Pain Intensity Recognition from Facial Expressions," in *Workshop Proceedings of the 15th International Conference on Automatic Face & Gesture Recognition, FG 2020*, (Buenos Aires, Argentina – Virtual Event), pp. 534–538, IEEE, IEEE, May 2020
  - 38) D. Aspandi, A. Mallol-Ragolta, B. Schuller, and X. Binefa, "Latent-Based Adversarial Neural Networks for Facial Affect Estimations," in *Workshop Proceedings of the 15th International Conference on Automatic Face & Gesture Recognition, FG 2020*, (Buenos Aires, Argentina – Virtual Event), pp. 348–352, IEEE, IEEE, May 2020
  - 39) L. Stappen, A. Baird, G. Rizos, P. Tzirakis, X. Du, F. Hafner, L. Schumann, A. Mallol-Ragolta, B. Schuller, I. Lefter, E. Cambria, and I. Kompatsiaris, "MuSe 2020 Challenge and Workshop: Multimodal Sentiment Analysis, Emotion-target Engagement and Trustworthiness Detection in Real-life Media," in *Proceedings of the 1st Multimodal Sentiment in Real-life Media Challenge and Workshop, MuSe 2020, co-located with the 28th International Conference on Multimedia, MM 2020*, (Seattle, WA, USA – Virtual Event), pp. 35–44, ACM, ACM, October 2020
  - 40) A. Mallol-Ragolta, Z. Zhao, L. Stappen, N. Cummins, and B. Schuller, "A Hierarchical Attention Network-Based Approach for Depression Detection from Transcribed Clinical Interviews," in *Proceedings of the 20th Annual Conference of the International Speech Communication Association, INTERSPEECH 2019*, (Graz, Austria), pp. 221–225, ISCA, ISCA, September 2019. (acceptance rate: 49.3 %)
  - 41) A. Mallol-Ragolta, M. Schmitt, A. Baird, N. Cummins, and B. Schuller, "Performance Analysis of Unimodal and Multimodal Models in Valence-Based Empathy Recognition," in

*Workshop Proceedings of the 14th International Conference on Automatic Face & Gesture Recognition, FG 2019*, (Lille, France), IEEE, IEEE, May 2019. 5 pages

- 42) F. Ringeval, B. Schuller, M. Valstar, N. Cummins, R. Cowie, L. Tavabi, M. Schmitt, S. Alisamir, S. Amiriparian, E.-M. Messner, S. Song, S. Liu, Z. Zhao, A. Mallol-Ragolta, Z. Ren, M. Soleymani, and M. Pantic, "AVEC 2019 Workshop and Challenge: State-of-Mind, Detecting Depression with AI, and Cross-Cultural Affect Recognition," in *Proceedings of the 9th International Workshop on Audio/Visual Emotion Challenge, AVEC 2019, co-located with the 27th 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
- 43) A. Mallol-Ragolta, S. Dhamija, and T. E. Boulton, "A Multimodal Approach for Predicting Changes in PTSD Symptom Severity," in *Proceedings of the 20th International Conference on Multimodal Interaction, ICMI 18*, (Boulder, CO, USA), pp. 324–333, ACM, ACM, October 2018
- 53) A. Mallol-Ragolta, H. Cuesta, E. Gómez, and B. Schuller, "EIHWS-MTG DiCOVA 2021 Challenge System Report," *arxiv.org*, October 2021. 4 pages
- 54) D. Aspandjari, A. Mallol-Ragolta, B. Schuller, and X. Binefa, "Adversarial-based neural networks for affect estimations in the wild," *arxiv.org*, January 2020. 5 pages
- 55) L. Stappen, A. Baird, G. Rizos, P. Tzirakis, X. Du, F. Hafner, L. Schumann, A. Mallol-Ragolta, B. Schuller, I. Lefter, E. Cambria, and I. Kompatsiaris, "MuSe 2020 – The First International Multimodal Sentiment Analysis in Real-life Media Challenge and Workshop," *arxiv.org*, April 2020. 10 pages
- 56) F. Ringeval, B. Schuller, M. Valstar, N. Cummins, R. Cowie, L. Tavabi, M. Schmitt, S. Alisamir, S. Amiriparian, E.-M. Messner, S. Song, S. Liu, Z. Zhao, A. Mallol-Ragolta, Z. Ren, M. Soleymani, and M. Pantic, "AVEC 2019 Workshop and Challenge: State-of-Mind, Detecting Depression with AI, and Cross-Cultural Affect Recognition," *arxiv.org*, July 2019. 11 pages

#### D) OTHER

##### Theses (2):

- 44) A. Mallol-Ragolta, *Post-Traumatic Stress Disorder Severity Prediction on Web-based Trauma Recovery Treatments Through Electrodermal Activity Measurements*. Master thesis, University of Colorado Colorado Springs, Colorado Springs, CO, USA, July 2018. 149 pages
- 45) A. Mallol-Ragolta, *Facial shape estimation methods for computing physiological signals with non-invasive techniques*. Bachelor thesis, Universitat Pompeu Fabra, Barcelona, Spain, July 2016. 120 pages

##### Abstracts in Conference/Challenge Proceedings (1)

- 46) 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 of the 16th International Pragmatics Conference, IPrA 2019*, (Hong Kong, China), p. 759, International Pragmatics Association (IPrA), IPrA, June 2019

##### Technical Reports and Preprints (10):

- 47) I. Tsangko, A. Triantafyllopoulos, A. Abdelmoula, A. Mallol-Ragolta, and B. Schuller, "Reading Smiles: Proxy Bias in Foundation Models for Facial Emotion Recognition," *arxiv.org*, June 2025. 9 pages
- 48) B. Schuller, A. Mallol-Ragolta, A. Peña Almansa, I. Tsangko, M. M. Amin, A. Semertzidou, L. Christ, and S. Amiriparian, "Affective Computing Has Changed: The Foundation Model Disruption," *arxiv.org*, September 2024. 27 pages
- 49) V. Karas, M. K. Tellamekala, A. Mallol-Ragolta, M. Valstar, and B. Schuller, "Continuous-Time Audiovisual Fusion with Recurrence vs. Attention for In-The-Wild Affect Recognition," *arxiv.org*, March 2022. 10 pages
- 50) S. Liu, A. Mallol-Ragolta, E. Parada-Cabeleiro, K. Qian, X. Jing, A. Kathan, B. Hu, and B. Schuller, "Audio Self-Supervised Learning: A Survey," *arxiv.org*, March 2022. 24 pages
- 51) B. Schuller, A. Batliner, S. Amiriparian, C. Bergler, M. Gerz, N. Holz, P. Larrouy-Maestri, S. Bayerl, K. Riedhammer, A. Mallol-Ragolta, M. Pateraki, H. Coppock, I. Kiskin, M. Sinka, and S. Roberts, "The ACM Multimedia 2022 Computational Paralinguistics Challenge: Vocalisations, Stuttering, Activity, & Mosquitoes," *arxiv.org*, May 2022. 5 pages
- 52) A. Mallol-Ragolta, H. Cuesta, E. Gómez, and B. Schuller, "EIHWS-MTG: Second DiCOVA Challenge System Report," *arxiv.org*, October 2021. 4 pages