

References: BioNLP Keynote 2023

July 2023

Please note: Not an exhaustive list! Just what I could fit in the presentation :)

Language as a marker of AD

- Fernando Cuetos, Juan Carlos Arango-Lasprilla, Claramónika Uribe, Claudia Valencia, and Francisco Lopera. Linguistic changes in verbal expression: A preclinical marker of Alzheimer's disease. *Journal of the International Neuropsychological Society*, 13(3):433–439, 2007
- Xuan Le, Ian Lancashire, Graeme Hirst, and Regina Jokel. Longitudinal detection of dementia through lexical and syntactic changes in writing: A case study of three British novelists. *Literary and Linguistic Computing*, 26(4):435–461, 2011
- Samrah Ahmed, Celeste A de Jager, Anne-Marie Haigh, and Peter Garrard. Semantic processing in connected speech at a uniformly early stage of autopsy-confirmed Alzheimer's disease. *Neuropsychology*, 27(1):79–85, 2013
- Visar Berisha, Shuai Wang, Amy LaCross, and Julie Liss. Tracking discourse complexity preceding Alzheimer's disease diagnosis: a case study comparing the press conferences of presidents Ronald Reagan and George Herbert Walker Bush. *Journal of Alzheimer's Disease*, 45(3):959–963, 2015
- Kathleen C Fraser, Jed A Meltzer, and Frank Rudzicz. Linguistic features identify Alzheimer's disease in narrative speech. *Journal of Alzheimer's Disease*, 49(2):407–422, 2016

Longitudinal changes

- Maria Yancheva, Kathleen Fraser, and Frank Rudzicz. Using linguistic features longitudinally to predict clinical scores for Alzheimer's disease and related dementias. In *Proceedings of the 6th Workshop on Speech and Language Processing for Assistive Technologies (SLPAT)*, pages 134–140, 2015
- Kimberly D Mueller, Rebecca L Kosciak, Bruce P Hermann, Sterling C Johnson, and Lyn S Turkstra. Declines in connected language are associated with very early mild cognitive impairment: Results from the wisconsin registry for Alzheimer's prevention. *Frontiers in Aging Neuroscience*, 9:437, 2018

Data collection

- Ulla Petti, Simon Baker, and Anna Korhonen. A systematic literature review of automatic alzheimer’s disease detection from speech and language. *Journal of the American Medical Informatics Association*, 27(11):1784–1797, 2020
- Kathleen C Fraser and Majid Komeili. Measuring cognitive status from speech in a smart home environment. *IEEE Instrumentation & Measurement Magazine*, 24(6):13–21, 2021
- Masatomo Kobayashi, Akihiro Kosugi, Hironobu Takagi, Miyuki Nemoto, Kiyotaka Nemoto, Tetsuaki Arai, and Yasunori Yamada. Effects of age-related cognitive decline on elderly user interactions with voice-based dialogue systems. In *Human-Computer Interaction–INTERACT 2019: 17th IFIP TC 13 International Conference, Paphos, Cyprus, September 2–6, 2019, Proceedings, Part IV 17*, pages 53–74. Springer, 2019
- Yasunori Yamada, Kaoru Shinkawa, Akihiro Kosugi, Masatomo Kobayashi, Hironobu Takagi, Miyuki Nemoto, Kiyotaka Nemoto, and Tetsuaki Arai. Predicting future accident risks of older drivers by speech data from a voice-based dialogue system: a preliminary result. In *Advances in the Human Side of Service Engineering: Proceedings of the AHFE 2020 Virtual Conference on The Human Side of Service Engineering, July 16-20, 2020, USA*, pages 131–137. Springer, 2020
- Gareth Walker, Lee-Anne Morris, Heidi Christensen, Bahman Mirheidari, Markus Reuber, and Daniel J Blackburn. Characterising spoken responses to an intelligent virtual agent by persons with mild cognitive impairment. *Clinical Linguistics & Phonetics*, 35(3):237–252, 2021
- Jeffrey Kaye. Home-based technologies: A new paradigm for conducting dementia prevention trials. *Alzheimer’s & Dementia*, 4(1):S60–S66, 2008

Multimodal

- Richard Chen, Filip Jankovic, Nikki Marinsek, Luca Foschini, Lampros Kourtis, Alessio Signorini, Melissa Pugh, Jie Shen, Roy Yaari, Vera Maljkovic, et al. Developing measures of cognitive impairment in the real world from consumer-grade multimodal sensor streams. In *Proceedings of the 25th ACM SIGKDD international conference on knowledge discovery & data mining*, pages 2145–2155, 2019
- Yasunori Yamada, Kaoru Shinkawa, Masatomo Kobayashi, Vittorio Caggiano, Miyuki Nemoto, Kiyotaka Nemoto, and Tetsuaki Arai. Combining multimodal behavioral data of gait, speech, and drawing for classification of alzheimer’s disease and mild cognitive impairment. *Journal of Alzheimer’s Disease*, 84(1):315–327, 2021
- Kathleen C Fraser, Kristina Lundholm Fors, Marie Eckerström, Fredrik Öhman, and Dimitrios Kokkinakis. Predicting mci status from multimodal language data using cascaded classifiers. *Frontiers in aging neuroscience*, 11:205, 2019

- Brian Roark, Margaret Mitchell, and Kristy Hollingshead. Syntactic complexity measures for detecting mild cognitive impairment. In *Biological, translational, and clinical language processing*, pages 1–8, 2007
- Kathleen C Fraser, Marie Eckerström, Charalambos Themistocleous, and Dimitrios Kokkinakis. Improving the sensitivity and specificity of MCI screening with linguistic information. In *Proceedings of the LREC 2018 Workshop “Resources and processing of linguistic, para-linguistic and extra-linguistic data from people with various forms of cognitive/psychiatric impairments (RaPID-2)*, 2018
- Oswald Barral, Hyeju Jang, Sally Newton-Mason, Sheetal Shajan, Thomas Soroski, Giuseppe Carenini, Cristina Conati, and Thalia Field. Non-invasive classification of alzheimer’s disease using eye tracking and language. In *Machine Learning for Healthcare Conference*, pages 813–841. PMLR, 2020
- Hyeju Jang, Thomas Soroski, Matteo Rizzo, Oswald Barral, Anuj Harisinghani, Sally Newton-Mason, Saffrin Granby, Thiago Monnerat Stutz da Cunha Vasco, Caitlin Lewis, Pavan Tutt, et al. Classification of alzheimer’s disease leveraging multi-task machine learning analysis of speech and eye-movement data. *Frontiers in Human Neuroscience*, 15:716670, 2021

ADReSSo shared task and deep learning

- Saturnino Luz, Fasih Haider, Sofia de la Fuente, Davida Fromm, and Brian MacWhinney. Alzheimer’s dementia recognition through spontaneous speech: The ADReSS challenge. *arXiv preprint arXiv:2004.06833*, 2020
- Jiahong Yuan, Yuchen Bian, Xingyu Cai, Jiaji Huang, Zheng Ye, and Kenneth Church. Disfluencies and fine-tuning pre-trained language models for detection of Alzheimer’s disease. In *Interspeech*, volume 2020, pages 2162–6, 2020
- Aparna Balagopalan, Benjamin Eyre, Frank Rudzicz, and Jekaterina Novikova. To bert or not to bert: comparing speech and language-based approaches for alzheimer’s disease detection. *arXiv preprint arXiv:2008.01551*, 2020
- Saturnino Luz, Fasih Haider, Sofia de la Fuente, Davida Fromm, and Brian MacWhinney. Detecting cognitive decline using speech only: The ADReSSo challenge. *arXiv preprint arXiv:2104.09356*, 2021
- Youxian Zhu, Abdelrahman Obyat, Xiaohui Liang, John A Batsis, and Robert M Roth. Wavbert: Exploiting semantic and non-semantic speech using wav2vec and bert for dementia detection. In *Proceedings of Interspeech*, volume 2021, page 3790. NIH Public Access, 2021
- Visar Berisha, Chelsea Krantsevich, Gabriela Stegmann, Shira Hahn, and Julie Liss. Are reported accuracies in the clinical speech machine learning literature overoptimistic? In *Proceedings of the Annual Conference of the International Speech Communication Association, INTERSPEECH*, volume 2022, pages 2453–2457, 2022

AI ethics

- Dan Ding, Rory A Cooper, Paul F Pasquina, and Lavinia Fici-Pasquina. Sensor technology for smart homes. *Maturitas*, 69(2):131–136, 2011
- Brent Mittelstadt. Ethics of the health-related internet of things: a narrative review. *Ethics and Information Technology*, 19(3):157–175, 2017
- Andrea Carboni, Dario Russo, Davide Moroni, and Paolo Barsocchi. Privacy by design in systems for assisted living, personalised care, and wellbeing: A stakeholder analysis. *Frontiers in Digital Health*, 4:934609, 2023
- Sofia de la Fuente Garcia, Craig W Ritchie, and Saturnino Luz. Artificial intelligence, speech, and language processing approaches to monitoring Alzheimer’s disease: a systematic review. *Journal of Alzheimer’s Disease*, 78(4):1547–1574, 2020
- Julia Amann, Alessandro Blasimme, Effy Vayena, Dietmar Frey, and Vince I Madai. Explainability for artificial intelligence in healthcare: a multidisciplinary perspective. *BMC medical informatics and decision making*, 20(1):1–9, 2020