

Mandy B. Korpusik

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EDUCATION

- 2019 Ph.D. in COMPUTER SCIENCE
Massachusetts Institute of Technology, Cambridge, MA
- 2015 S.M. in COMPUTER SCIENCE
Massachusetts Institute of Technology, Cambridge, MA
- 2013 B. S. in ELECTRICAL AND COMPUTER ENGINEERING
Franklin W. Olin College of Engineering, Needham, MA

RESEARCH INTERESTS

My primary research interest is applications of large language models (LLMs). We have built a nutrition chatbot that uses LLMs to perform semantic tagging of natural language meal descriptions, answer nutrition questions, and provide personalized healthy meal recommendations. We have also used LLMs with retrieval-augmented generation to answer questions for parents of children with disabilities. Finally, we have trained vision language Transformers and used multimodal LLMs to recognize foods and portion sizes in images of meals. I am passionate about developing safe, compliant conversational agents for health and wellness that provide personalized recommendations.

WORK EXPERIENCE

- 2019–Present | Associate Professor
Department of Computer Science
LOYOLA MARYMOUNT UNIVERSITY
- 2022–Present | Consultant
eBAY
- 2023–Present | Founder & CEO
MEALMATE INC.
- 2023 | Consultant
UNDIVIDED
- 2013–2019 | Graduate Research Assistant
Computer Science and Artificial Intelligence Laboratory
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
- 2015 | Intern
FX PALO ALTO LABORATORY

TEACHING EXPERIENCE

- 2021–Present | Instructor, Machine Learning, LMU
- 2020–Present | Instructor, Natural Language Processing, LMU
- 2019–Present | Instructor, Introduction to Computer Programming, LMU
- 2021 | Instructor, Exploring Computer Science, LMU
- 2020–2021 | Instructor, Programming Lab, LMU
- 2016 | CS Instructor, Women's Technology Program, MIT
- 2016 | Co-Instructor, IAP Speech and Language Processing Course, MIT
- 2015 | Kaufman Teaching Certificate Program, MIT

PEER-REVIEWED CONFERENCE PROCEEDINGS

- 2023 *Multi-modal Food Classification in a Diet Tracking System with Spoken and Visual Inputs.* S. Gowda*, Y. Hu*, M. Korpusik. ICASSP. (* authors contributed equally)
- 2022 *Pacman Trainer: Classroom-Ready Deep Learning from Data to Deployment.* M. Kitamura, M. Korpusik, A. Forney. ASEE.
- 2022 *Impact of Late Policies on Submission Behavior and Grades in Computer Programming.* M. Korpusik, J. Freitas, J. Dionisio. ASEE.
- 2021 *A New Dataset for Natural Language Understanding of Exercise Logs in a Food and Fitness Spoken Dialogue System.* M. Epps, J. Uribe, M. Korpusik. SLT.
- 2019 *A Comparison of Deep Learning Methods for Language Understanding.* M. Korpusik, Z. Liu, J. Glass. Interspeech, Graz, Austria.
- 2019 *Dialogue State Tracking with Convolutional Semantic Taggers.* M. Korpusik, J. Glass. ICASSP.
- 2018 *Convolutional Neural Networks for Dialogue State Tracking without Pre-trained Word Vectors or Semantic Dictionaries.* M. Korpusik, J. Glass. SLT.
- 2018 *Convolutional Neural Networks and Multitask Strategies for Semantic Mapping of Natural Language Input to a Structured Database.* M. Korpusik, J. Glass. ICASSP.
- 2017 *Character-based Embedding Models and Reranking Strategies for Understanding Natural Language Meal Descriptions.* M. Korpusik, Z. Collins, J. Glass. Interspeech.
- 2017 *Semantic Mapping of Natural Language Input to Database Entries via Convolutional Neural Networks.* M. Korpusik, Z. Collins, J. Glass. ICASSP.
- 2016 *Distributional Semantics for Understanding Spoken Meal Descriptions.* M. Korpusik, C. Huang, M. Price, J. Glass. ICASSP.
- 2016 *Recurrent Neural Networks for Customer Purchase Prediction on Twitter.* M. Korpusik, S. Sakaki, F. Chen, Y. Chen. CBRecSys, Boston.
- 2016 *Corpus for Customer Purchase Behavior Prediction in Social Media.* S. Sakaki, F. Chen, M. Korpusik, Y. Chen. LREC, Portoroz.
- 2014 *Data Collection and Language Understanding of Food Descriptions.* M. Korpusik, N. Schmidt, J. Drexler, S. Cyphers, J. Glass. SLT.

PEER-REVIEWED JOURNAL ARTICLES

- 2026 *A Smart Phone App to Improve Intuitive Eating and Diet Quality: Design and Usability Study.* M. Korpusik, D. YazdanSepas, H. Almstedt. Journal of Medical Internet Research Human Factors.
- 2021 *Use of Natural Spoken Language With Automated Mapping of Self-reported Food Intake to Food Composition Data for Low-Burden Real-time Dietary Assessment: Method Comparison Study.* S. Taylor*, M. Korpusik*, S. Das, C. Gilhooly, R. Simpson, J. Glass, S. Roberts. Journal of Medical Internet Research. (*authors contributed equally)
- 2019 *Deep Learning for Database Mapping and Asking Clarification Questions in Dialogue Systems.* M. Korpusik, J. Glass. IEEE Transactions on Audio, Speech and Language Processing (ASLP).
- 2017 *Spoken Language Understanding for a Nutrition Dialogue System.* M. Korpusik, J. Glass. IEEE ASLP.

WORKSHOPS

- 2025 *ESMfluc: Predicting flexible regions in a protein using language models*. N. Tran, M. Korpusik, Z. Alavi. 29th Annual International Conference on Research in Computational Molecular Biology (RECOMB) 2025, Seoul.
- 2025 *A Novel Undergraduate Research Program for Underrepresented Sophomore Students: Forming STEM Research Communities*. T. Kuzmenko, B. Marino, E. Hawkins, M. Korpusik, K. Mouzakis, C. Sousa. ConnectUR 2025, Grand Rapids, MI.
- 2025 *A Novel Undergraduate Research Program for Underrepresented Sophomore Students: Curriculum to Prepare Students for Research*. M. Korpusik, E. Hawkins, T. Kuzmenko, B. Marino, K. Mouzakis, C. Sousa. ConnectUR 2025, online.
- 2019 *A Food Logging System for iOS with Natural Spoken Language Meal Descriptions*. M. Korpusik, S. Taylor, S. Das, C. Gilhooly, S. Roberts, J. Glass. Nutrition 2019, Baltimore.
- 2019 *Testing the Validity of a Natural Spoken Language Application for the Self-monitoring of Daily Dietary Intake*. R. Silver, M. Korpusik, S. Taylor, S. Das, C. Gilhooly, J. Glass, S. Roberts. Nutrition 2019, Baltimore.
- 2019 *Convolutional Neural Encoder for the 7th Dialogue System Technology Challenge*. M. Korpusik, J. Glass. DSTC7 Workshop, Honolulu.

PATENTS

- 2020 Korpusik, M. et al. A System and Method for Semantic Mapping of Natural Language Input to Database Entries via Convolutional Neural Networks. U.S. Patent 10817509.
- 2019 Korpusik, M. et al. Behavior Prediction on Social Media Using Neural Networks. U.S. Patent 10453099.

GRANTS

- 2026 Responsible Integration of AI in Curriculum, Research, and Innovation Summer Scholarly Work Grant, LMU, Seaver College of Science & Eng.
- 2026 \$17,000 LMU HHMI Mini-Grant for Computer Science
- 2025 \$50,000 Research Gift, eBay
- 2024 \$50,000 Interdisciplinary Grant, LMU, Seaver College of Science & Eng.
- 2023 \$100,000 Research Gift, eBay
- 2023 \$256,000 SBIR Phase I, NSF
- 2023 Continuing Faculty Grant, LMU, Seaver College of Science & Eng.
- 2023 Academic Technology Grant, LMU
- 2022 \$50,000 Research Gift, eBay
- 2022 Faith & Justice Research Grant, LMU
- 2021 Capacity Building Grant, LMU, University Intercultural Council
- 2021 Continuing Faculty Grant, LMU, Seaver College of Science & Eng.
- 2021 Faith & Justice Course Development Grant, LMU
- 2020 Faith & Justice Research Grant, LMU
- 2020 Course Development Grant, LMU, Seaver College of Science & Eng.

INVITED TALKS

- 2025 Intro to AI Workshop for Engineers, Northrop Grumman
- 2022 Tech Talk, eBay
- 2021 Keynote, [NAACL workshop on trustworthy NLP](#), MEXICO CITY, MEXICO
- 2020 Colloquium, HARVEY MUDD COLLEGE, CLAREMONT
- 2018 Talk, CMU, PITTSBURGH
- 2017 Panel, Young Female Researchers in Speech Workshop, KTH, SWEDEN

AWARDS

- 2026 LMU Award for Excellent in Mission Integration
- 2024 Faculty Fellow, LMU Seaver College of Science and Engineering
- 2023 Faculty Fellow, LMU Center for Teaching Excellence
- 2022 Ascending Scholar Award, LMU
- 2021 Honorable Mentor Award, LMU Honors Program
- 2019 Paul L. Penfield Student Service Award, MIT EECS Department
- 2019 Semifinalist, MIT 100K Launch
- 2016 Service Award, Sidney Pacific Graduate Residence
- 2015 Fellowship, National Science and Engineering Graduate (NDSEG)
- 2015 Honorable Mention, NSF Graduate Research Fellowship
- 2014 Best Rated Poster Presentation Award: Demos, Spoken Language Technology Workshop (SLT), South Lake Tahoe

MEDIA COVERAGE

- 2026 [LMU Professor Leads AI Workshop for Northrop Grumman](#), LMU NEWS
- 2025 [In2Eat: AI-Based Food Recommendations for Improved Diet Quality and Intuitive Eating](#), LMU NEWS
- 2024 [SoCal Innovation Showcase](#), LMU NEWS
- 2023 [Food for Thought: Third place winners - Binary classification with pre-trained BERT](#), REAL WORLD DATA SCIENCE
- 2022 [eBay Funds Faculty Research on Purchase Intent Prediction](#), LMU NEWS
- 2019 [Exploring the nature of intelligence](#), Kim Martineau, MIT NEWS
- 2019 [Inside AI](#), Rob May, INSIDEAI NEWSLETTER
- 2016 [Voice-controlled calorie counter](#), Larry Hardesty, MIT NEWS

SERVICE AND LEADERSHIP ACTIVITIES

- 2024-2025 Chair, Seaver College DEI Committee, LMU
- 2023-2024 Member, Computer Science Search Committee, LMU
- 2023-2024 Member, Seaver College DEI Committee, LMU
- 2022-2023 Chair, Computer Science Search Committee, LMU
- 2022 Chair, Computer Science Culture and Climate Committee, LMU
- 2021 Project Kaleidoscope (PKAL) STEM Leadership Institute
- 2021 Organizer, [ACL-IJCNLP Meta-learning for NLP Workshop](#), BANGKOK
- 2021 Panel Reviewer, NSF
- 2015-Present Venture Mentoring Service, MIT
- 2016-2019 Sandbox Program, MIT
- 2018 Rising Stars EECS Workshop, MIT
- 2018 MIT I-Corps Program, MIT
- 2016 Co-President, Graduate Women in EECS (GW6), MIT
- 2012 President, Society of Women Engineers (SWE), OLIN COLLEGE