

Austin Kothig

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Education

- 2021 — **PhD in Systems Design Engineering**, University of Waterloo, *GPA – 92.50%*.
Present Advisor: Prof. Kerstin Dautenhahn
Received the NSERC Postgraduate Scholarship-Doctoral (PGS D), University of Waterloo President's Scholarship, and the Engineering Excellence Fellowship (PhD).
- 2019 — 2021 **MASc in Systems Design Engineering**, University of Waterloo, *GPA – 89.25%*.
Thesis: "Accessible Integration of Physiological Adaptation in Human-Robot Interaction". 📄
Advisor: Prof. Kerstin Dautenhahn
Received a Microsoft AI for Social Good research grant.
- 2014 — 2019 **BSc in Computer Science**, University of Lethbridge, *GPA – 80.75%*.
Graduated with Co-operative Education
Exchange term at the Italian Institute of Technology (Genoa, Italy)
Received funding from NSERC USRA, Mitacs Globalink, and Chinook awards for research projects.

Publications

- 2022 [Kothig A](#), [Aroyo AM](#), [Dautenhahn K](#). "An Embodied Approach for Joint Action Collaboration with Humanoid Robots". In HRI 2022 Workshop on Joint Action, Adaptation, and Entrainment in Human-Robot Interaction (JAAE). 📄
- 2021 [Kothig A](#), [Muñoz J](#), [Akgun SA](#), [Aroyo AM](#), [Dautenhahn K](#). "Connecting humans and robots using physiological signals – closing-the-loop in HRI". In IEEE International Conference on Robot and Human Interactive Communication '30. 2021 (RO-MAN). 📄
- 2021 [Aroyo AM](#), [Pasquali D](#), [Kothig A](#), [Rea F](#), [Sandini G](#), [Sciutti A](#). "Expectations vs. Reality: Unreliability and transparency in a treasure hunt game with iCub". IEEE Robotics and Automation Letters. 2021 (RA-L). 📄
- 2021 [Rea F](#), [Kothig A](#), [Grasse L](#), [Tata M](#). "Speech envelope dynamics for noise-robust auditory scene analysis in robotics". International Journal of Humanoid Robotics (IJHR). 📄
- 2020 [Kothig A](#), [Muñoz J](#), [Mahdi H](#), [Aroyo AM](#), [Dautenhahn K](#). "HRI Physio Lib: A software framework to support the integration of physiological adaptation in HRI". In International Conference on Social Robotics '12. 2020 (ICSR). 📄
- 2019 [Kothig A](#), [Ilievski M](#), [Grasse L](#), [Rea F](#), [Tata M](#). "A Bayesian system for noise-robust binaural sound localisation for humanoid robots". In IEEE International Symposium on Robotic and Sensors Environments '13. 2019 (ROSE). 📄

Academic Service

Reviewer.

- 2022 IEEE Robotics and Automation Letters (RA-L) and BioRob
2021 IEEE International Conf. on Robot & Human Interactive Communication (RO-MAN)
2020 Springer International Conference on Social Robotics (ICSR)

Technical Skills

Languages: C/C++, Python, SQL, MATLAB, Android/Java, Bash, LaTeX
Technologies: ROS, YARP, PyTorch, Tensorflow/Keras, CUDA, OpenCV, MySQL, Git, Docker

Work Experience

- 2019 — **Research Assistant**, University of Waterloo, Canada.
Present Supervisor: Dr. Kerstin Dautenhahn; Social and Intelligent Robotics Research Laboratory
- Embodied Social Mechanisms for Improved Human-Robot Interaction.
 - Accessible Integration of Physiological Adaptation in Human-Robot Interaction.
- Teaching Assistant**, University of Waterloo, Canada.
- Spring 2022 MTE 140: Algorithms and Data Structures
Winter 2022 BME 122: Data Structures and Algorithms
Fall 2021 SYDE 161: Introduction to Design
Winter 2021 ECE 108: Discrete Mathematics and Logic
Fall 2020 SYDE 113: Matrices and Linear Systems
Winter 2020 SYDE 223: Data Structures and Algorithms
- Lead weekly tutorials; assisted during lab; marking for assignments, quizzes, and exams.
- Fall 2018 **Visiting Researcher**, Italian Institute of Technology, Italy.
Supervisor: Dr. Francesco Rea; Robotics, Brain and Cognitive Sciences Lab
- Development of a speech-specific method of auditory perception for the iCub robot.
- 2017 — 2019 **Research Assistant**, University of Lethbridge, Canada.
Supervisor: Dr. Matthew Tata; Cognitive Robotics Lab
- Development of biologically inspired computational models for auditory localization.
- 2016 — 2018 **Information Technology Analyst**, Alberta Health Services, Canada.
Team Lead: Jodi Deering; Meditech Build Team
- Standardization and security auditing in the electronic medical record database Meditech.

Awards and Honors

- 2022 NSERC Postgraduate Scholarship-Doctoral (PGS D), (\$21,000 / Year, National, Research)
2022 University of Waterloo President's Scholarship, (\$10,000 / Year, Institutional, Academic)
2021 Engineering Excellence Fellowship - PhD (EEF D), (\$30,000 / Year, Faculty, Research)
2021 Engineering Dean's Entrance Award (PhD), (\$5,000, Faculty, Academic)
2020 Microsoft AI for Social Good Research Grant, (\$25,000, Institutional, Research)
2019 NSERC Undergraduate Student Research Award (USRA), (\$8,500, National, Research)
2018 Mitacs Globalink Research Award, (\$6,000, National, Research)
2018 Chinook Summer Research Award, (\$7,900, Institutional, Research)

Volunteer and Leadership Experience

- 2020 — 2021 **GSA Councilor**, Department of Systems Design Engineering, University of Waterloo.
- Attended regular UWaterloo Graduate Student Association (GSA) council meetings.
 - Organized affairs of the SYDE-GSA, including coordinating the executive community, organizing and running online social events for SYDE graduate students.
 - Administrate a SYDE Graduate student community Discord server.
- Public Speaking.**
- 2021 Canadian Graduate Engineering Consortium, Student Panelist.
2021 UW Engineering, Incoming Research-based Graduate Student Webinar, Student Panelist.