Jessica Yi Fei Bo

CONTACT

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EDUCATION

University of Toronto, Toronto, Canada
PhD in Computer Science, expected 2027
Topic: design and evaluation of human-AI interactions.
Advisor: Ashton Anderson

ETH Zurich, Zurich, Switzerland
MSc in Mechanical Engineering (Robotics), 2023
Thesis at **Massachusetts Institute of Technology** and **Harvard Medical School**: "Improving Deep Learning Model Generalizability with Adversarial Augmentations for Time-Series Physiological Data"
Advisors: Giovanni Traverso, Hen-Wei Huang, Peter Chai

University of British Columbia, Vancouver, BC, Canada
BASc In Mechanical Engineering (Biomedical), 2020
Thesis: "Wheelchair detection and state estimation using laser scanning sensors for mobile robots"
Advisor: Machiel Van der Loos

RESEARCH EXPERIENCES

University of Toronto, Toronto, ON, Canada
Research Assistant in the Computational Social Sciences Lab | 2023 – ongoing
My current research focuses on how people perceive, use, and rely on AI tools, and how AI systems can be used to benefit human cognition.

National University of Singapore, Singapore
Research Assistant in the Ubicomp Lab | 2023
I developed and validated a novel AI explanation technique (IncrementalXAI, based on the principle of learning via knowledge accumulation) for improved memorability and understanding of AI systems.

Massachusetts Institute of Technology, Cambridge, MA, USA
Visiting Thesis Student in the Traverso Lab | 2022
Using self-supervised learning with adversarial augmentations, I improved the robustness of medical time-series prediction models. I also worked on an implantable medical device, where I a) investigated the ethics and acceptability of the device, and b) analyzed respiratory signals for detecting overdose.

École polytechnique fédérale de Lausanne (EPFL), Lausanne, Switzerland
Summer@EPFL Research Assistant in the Visual Intelligence and Learning Laboratory | Summer 2021
Inspired by ecological psychology, I investigated the perceptual capabilities developed by reinforcement learning agents trained on embodied navigation tasks. I also helped develop a CLIP-based object sketching tool that preserves semantic and visual properties.

Attentiv Medical, Vancouver, BC, Canada
Co-Founder and Research Lead | 2020–2022
***Awards**: James Dyson National Winner (Canada) and International Top 20, Microsoft Discover AI - Healthcare Winner, Medical Device Design Center Principal Award, UBC Innovation on Board Start-Up Competition (Runner Up).*
I led an interdisciplinary team to design a patentable bioelectric sensor and real-time monitoring system for detecting IV failures in medically critical neonates.

University of British Columbia, Vancouver, BC, Canada
Research Assistant in CARIS Robotics Lab | 2019–2020
Using laser sensor data from a sidewalk robot, I implemented a wheelchair orientation and state estimation algorithm to improve human-robot interaction safety.

Lund University, Lund, Sweden
Research Assistant in the CERTEC Group | Sumer 2017
In a team of two, I prototyped a hand spasticity rehabilitation device that provides motion-triggered feedback and real-time control of a computer game for stroke survivors.

TEACHING EXPERIENCES

CSC311: Introduction to Machine Learning, University of Toronto
Teaching Assistant | Winter 2024

CSC148: Introduction to Computer Science, University of Toronto
Teaching Assistant | Fall 2023

CONFERENCE PUBLICATIONS

Bo J, Hao P, Lim B (2024). "Incremental XAI: Memorable Understanding of AI with Incremental Explanations". *CHI '24*.

Bo J, Ta K, Nishida R, Yeh G, Tsang V, Bolton M, Ranger M, Walus K (2022). "ATTENTIV: Instrumented Peripheral Catheter for the Detection of Catheter Dislodgement in IV Infiltration". *IEEE EMBC '22*.

Agrawal D*, Lobsiger J*, **Bo J,** Kaufmann V, Armeni I (2022). "HoloLabel: Augmented Reality User-In-The-Loop Online Annotation Tool for As-Is Building Information". *EC3 '22*.

Bo J, Van der Loos M (2021). "Detection of Wheelchair Orientation in Human-Robot Interactions". *BIOMDLORE '21*.

JOURNALS PUBLICATIONS

Huang HW*, Chai P*, Kerssemakers T, Imani A, Chen J, Lee S, Heim M, **Bo J**, Wentworth A, Fabian N, Jenkins J, Pettinary A, Ishida K, Li J, You S, Hayward AM, Traverso G (2024). "An Implantable System for Opioid Safety (iSOS)". *Submitted to Science Translational Medicine.*

Vinker Y, Pajouheshgar E, **Bo J**, Bachmann R, Bermano AH, Cohen-Or D, Zamir A, Shamir A (2022). "CLIPasso: Semantically Aware Object Sketching". *ACM Transactions on Graphics* and Best Paper at *SIGGRAPH '22*.

ABSTRACTS AND POSTERS

Zhao Z, **Bo J***, Singh K (2024). "Make it Happier! Discretizing and Amplifying Happiness in Animated Faces". *Graphics Interfaces '24*.

Bo J*, Mok L*, Tie J, Anderson A (2024). "Does GPT Distrust Algorithms? Evaluating Large Language Models". *CHI '24 HEAL Workshop* and *IC2S2 '24* (both non-archival).

Bo J, Huang HW, Chan A, Traverso G (2022). "Adversarial Masking for Pretraining ECG Data Improves Downstream Model Generalizability". Jointly accepted to *ML4H '22* and *TS4H* workshop at *NeurIPS '22*.

Bo J, Van der Loos M (2020). "Detection of Wheelchairs Using Laser Scanning Sensors for Mobile Robotics". Best Oral Presentation at *UBC MURC '20*.

SELECTED AWARDS

Walter C. Sumner Memorial Fellowship (*6700 CAD*), Walter C. Sumner Foundation, 2024
Ontario Graduate Scholarship (*5000 CAD x 3*), Government of Ontario, 2024
Schwartz Reisman Graduate Fellow *(7500 CAD),* Schwartz Reisman Institute, 2024.
Wolfond Fellow *(5000 CAD),* University of Toronto, 2024
Grace Hopper Scholar, Anita B, 2023
DeepMind Scholarship (*declined*), DeepMind, 2023
Gates Cambridge Scholarship - *Finalist*, Cambridge University, 2023
Graduate Research Grant *(3400 USD)*, IEEE Computational Intelligence Society, 2022
Master Thesis Grant *(10,500 CHF)*, Zeno Karl Schindler Foundation, 2022
Swiss-European Mobility Scholarship *(4500 CHF)*, Swiss-European Mobility Programme, 2022
Heyning-Roelli Mobility Grant *(1100 CHF),* Heyning-Roelli Foundation, 2021
Order of the White Rose Scholarship - *Finalist* , UBC Applied Science, 2020
Top 5% Academic Ranking, UBC Applied Science, 2020

Canada Graduate Scholarships-Master's (*17,500 CAD, declined*), NSERC Canada, 2020
Speak Out for Engineering *(300 GBP, 1st place)*, Institution of Mechanical Engineers, 2019
Women in Technology Scholarship *(10,000 CAD)*, Irving K Barber BC Scholarship Society, 2019
NSERC Experience Award *(4500 CAD)*, NSERC Canada, 2016
Dean's Honour List, University of British Columbia, all academic years

INDUSTRY EXPERIENCES

Coursera, Toronto, ON, Canada (remote)
Software Engineering Intern | Summer 2020

Amazon, Vancouver, BC, Canada
Software Engineering Intern | Summer 2019

Blackberry QNX, Ottawa, ON, Canada
3D Vision R&D Intern | Winter 2018

SERVICE AND VOLUNTEERING

ACM Conference on Human Factors in Computing Systems (CHI), Honolulu, HI, USA
Conference Volunteer | 2024

Computer Science Graduate Society (CSGS), University of Toronto
Graduate Affairs Committee Member | 2023–ongoing

Department of Computer Science, University of Toronto
Graduate Admissions Triager | Fall 2023

Graduate Application Assistance Program (GAAP), University of Toronto
Mentor for Prospective Applicants | Fall 2023

Traverso Lab Machine Learning Corner, Massachusetts Institute of Technology
Reading Group Organizer | 2022

Neural Information Processing Systems (NeurIPS), New Orleans, LA, USA
Conference Volunteer | 2022

Open Roboethics Institute, Montreal, QC, Canada (remote)
AI Fairness Toolkit & Roboethics Competitions | 2021–ongoing

Connect-F Mentorship Program, University of British Columbia
STEM Mentor for High School Students | 2020–2021

International Conference on Engineering Design (ICED), Vancouver, BC, Canada
Conference Volunteer | 2017

UBC Biomedical Engineering Student Team, University of British Columbia
Research Team for Orthopedic Medical Device | 2016–2020

UBC Engineering Undergraduate Society & Women in Engineering, University of British Columbia
Graphic Designer | 2015–2018

UBC Orbit Satellite Design Student Team, University of British Columbia
Satellite Controls Team | 2015–2016

International Children's Advisory Network
Conference Committee Chair and Youth Council Member | 2015–2019

Kidscan Youth Advisory Council, BC Children's Hospital Research Institute
Pediatric Research Advisor | 2014–2019