

Curriculum Vitae

Man Yeung (Andy) Tai

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Man Yeung (Andy) Tai, PhD

Postdoctoral Researcher, Institute for Artificial Intelligence in Medicine (IKIM), University Hospital Essen

Personal Information

Field	Details
Name	Man Yeung Tai (Andy)
Current position	Postdoctoral Researcher, Institute for Artificial Intelligence in Medicine (IKIM), University Hospital Essen, Essen, Germany (Jul 2026 – Present)
Nationality	Canadian
Date and place of birth	October 25, 1994; Vancouver, Canada
Languages	English (native); Cantonese (fluent); Mandarin (conversational); German (beginner)
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ORCID	https://orcid.org/0000-0001-5262-8615
Google Scholar	https://scholar.google.com/citations?user=Cs0lX0sAAAAJ
GitHub	https://github.com/andytai7
Website	https://andytai7.github.io/Andy-Tai/

Research Interests

My research focuses on federated and privacy-preserving learning and on trustworthy AI in medicine: methods that let clinical models learn from distributed hospital data without centralizing patient records, with explicit accounting of communication cost, privacy, and reliability. This builds on my earlier work in applied health machine learning. My PhD is in neuroscience, where I applied machine learning to problems in addiction psychiatry, including overdose risk prediction and clinical decision support.

Category	Topics
Methods	Federated and continual learning; privacy-preserving and communication-efficient distributed training; machine learning and deep learning; clinical prediction and risk modelling; statistical modelling and meta-analysis; cumulative link mixed models; natural language processing and large language model tooling; knowledge translation

Category	Topics
Applications	Federated learning for medical data (FLIP-IT); trustworthy AI in medicine; addiction psychiatry and the overdose crisis; digital and youth mental health; clinical decision support systems; maritime surveillance; data science education and AI literacy

Current Research Projects

Project	Description	Status
FLIP-IT (IKIM, University Hospital Essen; NEXT.IN.NRW-funded)	Federated learning for medical data. Building federated chronic kidney disease risk prediction across general practice clinics using the Flower framework. Collaboration with Prof. Jens Kleesiek (IKIM), Prof. Michael Kamp (Lamarr Institute), and Dr. Moon Kim; collaboration with the Kamp Lab at TU Dortmund through FLIP-IT.	Ongoing
Brain-inspired federated continual learning for healthcare AI	Privacy-preserving federated continual learning algorithms (federated synaptic consolidation; federated hippocampal replay; predictive coding FL) that allow clinical models to learn continuously from distributed hospital data without catastrophic forgetting; open-source federated continual learning benchmark toolkit.	Ongoing
Activation and rank-code communication protocols for federated learning	Methods project on federated protocols in which clients communicate activation or rank codes (which units fire, and in what order) rather than model parameters. Pre-registered control arms and explicit communication-bitrate accounting.	Work in progress; no publication attached

Education

Dates	Institution and degree	Details
Sep 2019 – Apr 2024	University of British Columbia (UBC), Vancouver – PhD, Neuroscience (graduate program with fast-track transfer from MSc)	Supervisor: Dr. Reinhard Michael Krausz; Committee: Dr. Alireza Kazemi; Dr. Raymond Ng; Dr. Christian Schuetz. Applied machine learning on addiction psychiatry.
2012 – 2017	University of Toronto, Toronto – Honours BSc	Major: Neuroscience; Minors: Environmental Science; Religion
2008 – 2012	West Point Grey Academy, Vancouver – High School Diploma	

Theses

Year	Thesis	Link
2024	Tai, A.M.Y. <i>Machine Learning Applications in Addiction Risk Prediction</i> . PhD dissertation, Neuroscience, University of British Columbia.	http://hdl.handle.net/2429/87759

Academic Appointments and Professional Experience

Dates	Role and organization	Notes
Jul 2026 – Present	Postdoctoral Researcher – Institute for Artificial Intelligence in Medicine (IKIM), University Hospital Essen, Essen, Germany	Federated learning in the FLIP-IT project (NEXT.IN.NRW-funded) with Prof. Jens Kleesiek and Dr. Moon Kim; collaboration with Prof. Michael Kamp and the Kamp Lab, Lamarr Institute, TU Dortmund. See Current Research Projects.
Jul 2024 – Jun 2026	Postdoctoral Teaching and Learning Fellow – Master of Data Science (MDS) and Department of Statistics, UBC	Two-year appointment, completed June 2026. Primary instructor across MDS, statistics, and science courses. Curriculum development: PrairieLearn assessment and rubric design; Quarto-based course websites; lecture materials on data visualization (Altair, ggplot2), simulation, and AI literacy. Evaluator for MDS capstone presentations with industry partners including Clarius Mobile Health and VRIFY Technology (evaluation role, not supervision). Department of Statistics EDI Seminar Series coordinator; SEDI Committee postdoctoral representative (Sep 2025 – Jun 2026).
Jul 2025 – Oct 2025	Data Science Consultant (freelance, part-time) – Clause Technology	HAVA maritime criminal detection system: agentic system with automated web scraping; NLP-based incident classification; LLM-assisted similarity de-duplication; BERT/NER/fuzzy matching; Dockerized architecture (MongoDB/PostgreSQL); cloud-ready. PDF table parsing (in development): computer vision and OCR pipeline for complex tables (rotations, multi-table pages); image preprocessing for OCR; variable extraction and standardization.
Apr 2024 – Present	Analyst – NAI Innovations (Vancouver)	Evaluation of ML-driven startups in medical cannabis symptom management; algorithmic performance analysis; strategy for AI in neuroscience and psychiatry.
Apr 2024 – Sep 2024	Data Scientist – Concussion RX (Vancouver)	ML and statistical modeling for concussion subtype analysis; clinical onboarding documentation; ConcussionRX and Llama 3 toolchain.

Dates	Role and organization	Notes
Sep 2019 – Apr 2024	Teaching Assistant – UBC (MDS, Computer Science, Business Analytics, Medicine)	MDS courses: DSCI 523, 524, 531, 532, 541, 522, 552, 553, 551, 571, 573; BAIT: 507, 509, 580A; CS: CPSC 121, 322; DSCI 320; Medicine: NRSC 501. MDS TA Award (2021/22).
Sep 2021 – Sep 2024	Associate Editor – URNCST Journal	Mentored undergraduate research teams across natural and clinical sciences.
Sep 2021 – Nov 2022	AP Psychology Tutor – UHubor Education	
Nov 2019 – Present	Founder/CEO – Building Blocks (student-led nonprofit)	Peer mentoring app and community; corporation no. 1176510-8.
Nov 2019 – Mar 2020	Head Coach (Grade 8 Basketball) – West Point Grey Academy	Youth coaching and team development.
2018 – 2019	Research Assistant – Addiction and Concurrent Disorders Group, Institute of Mental Health, UBC	E-mental health: WalkAlong; RAMP (Risk Assessment and Management Platform); conference organizing.
Nov 2018 – Dec 2018	Research Assistant – BC Children’s Hospital / CFRI, UBC	Microglia morphology in bipolar disorder and schizophrenia cortical tissue (Beasley Lab).
Sep 2018 – Dec 2018	Research Analyst – NAI Interactive Ltd.	Biotech pipeline data mining and research.
May 2017 – Jun 2018	Lab Technician – SickKids, PGCRL (Josselyn Lab), Toronto	Epitranscriptomics; optogenetics; operant behavior; DNA construct work; animal perfusions and imaging.
Jan 2016 – May 2017	Research Assistant – Toronto Western Hospital, MDPU (McIntyre)	Big data and ML in psychiatry; meta-analysis on THC and cognition; first-author ML review.
May 2015 – Jun 2017	Lifeguard – Hart House, University of Toronto	NLS/CPR-C certified.

Educational Research and Scholarship

Item	Description
The Regression Cookbook: Machine Learning and Stats Flavours	Open educational resource funded by the UBC OER Fund. Co-author and curriculum developer; comprehensive textbook bridging machine learning and statistical approaches with dual-language (Python and R) implementations and common terminology between disciplines.
TLEF-funded study on AI literacy in higher education	TLEF-funded study of AI literacy in higher education. Built the statistical analysis framework using cumulative link mixed models and Stuart-Maxwell tests for marginal homogeneity.
Responsible generative AI in data science education	Frameworks for responsible generative AI use in data science education: GenAI policy lab, collaborative brainstorming, critical visualization assessment, and AI-resilient assessment design in DSCI 531.

Teaching

Primary instructor (two academic years, UBC)

Course	Title
DSCI 100	Statistics and Data Science
DSCI 513	Databases and SQL for Data Science
DSCI 521	Data Science: Tooling
DSCI 531	Data Visualization I
DSCI 542	Communication and Argumentation
DSCI 551	Descriptive Statistics and Probability for Data Science
DSCI 591	Capstone Project
STAT 302	Introduction to Probability
SCIE 113	Science Communication
SCIE 300	Science Communication

Curriculum development and assessment - PrairieLearn assessment and rubric design across MDS courses. - Quarto-based course websites. - Lecture materials on data visualization (Altair, ggplot2), simulation, and AI literacy. - Evaluator for MDS capstone presentations with industry partners including Clarius Mobile Health and VRIFY Technology. Evaluation role, not supervision.

MDS Capstone Projects (DSCI 591)

Project	Partner and scope	Methods and deliverables	Role
External Demand Signals for Handheld Ultrasound	Clarius Mobile Health	Monthly country-by-state-by-channel lead panel (58 months, 2021-2025) linked to Google Trends, GA4 traffic, marketing campaigns, news volume, macroeconomic, weather, demographic, and hospital infrastructure sources; staged feature selection reducing 252 candidates to 29; fixed-effect Negative Binomial GLM; Bayesian mixed GLM with partially pooled geographic random intercepts; Bayesian Structural Time Series (Stan/PyStan); Docker/Conda-pinned, unit-tested Quarto documentation.	Capstone presentation evaluation
CPOE Impact Evaluation on Pediatric Laboratory Services	BC Children's Hospital, Department of Pathology and Laboratory Medicine (sponsor: Dr. Vilte Barakauskas)	Evaluation of computerized provider order entry, Clinical Collect ID-band scanning, and electronic ordersets following the February 2022 CST Cerner go-live; SQL linkage of Sunquest laboratory information system and CST Cerner EHR extracts within the PHSA PANDA secure enclave; derived-metric construction; pre- and post-implementation evaluation.	DSCI 591 project supervision

Project	Partner and scope	Methods and deliverables	Role
Deep Learning for Soil Geochemistry Prediction	VRIFY Technology Inc.	Multi-source raster pipeline (~130 GeoTIFF covariates per area); multicollinearity filtering and Recursive Feature Elimination across ten target elements; spatially blocked StratifiedGroupKFold (2 km tiles); lightweight CNN, expert per-element CNN, U-Net (ResNet-34 encoder), DOFA foundation model; SHAP-based attribution; MLflow tracking. Final CNN on vectorized targets reached held-out R^2 of 0.41 against a production RandomForest baseline at 0.34.	Capstone presentation evaluation
MedDRA Autocoder	Vaccine Evaluation Center, BC Children's Hospital Research Institute	Hybrid retrieval system coding free-text clinical verbatim to MedDRA concepts; biomedical sentence embeddings (SapBERT, BioLORD, BiomedBERT benchmarked) with lexical similarity re-weighting; Streamlit application with two-stage reviewer adjudication and Dictionary Manager. BioLORD selected as production encoder, Top-3 PT+SOC retrieval accuracy 0.887 on internal evaluation.	DSCI 591 project supervision
CDL Venture Dashboard	Creative Destruction Lab	Survival analysis (Cox PH), graduation prediction (XGBoost, HistGB), KNN similarity; LLM-based feature extraction (GPT-4); Dockerized Plotly Dash app; early-warning analytics.	DSCI 591 project supervision
Automated Phishing Detection	UBC Cybersecurity	Containerized web service; email classification pipeline; monitoring dashboard; reproducible documentation and deployment.	DSCI 591 project supervision
Semi-Supervised Vessel Trajectories	Nautical Crime Investigation Services	AIS maritime data (~20 GB); HMM segmentation; LSTM sequence labeling; Random Forests; land filtering, vessel ID triage, trip labeling; full evaluation framework. Led to a published journal article (EAAI 2026, see publications).	DSCI 591 project supervision

Publications: Peer-Reviewed Journal Articles

13 peer-reviewed journal articles, 6 as first author and 1 as corresponding author (marked *). Cited 392 times (Google Scholar, September 2026). Consistent format: Authors. Title. Journal, volume(issue), pages or article number. DOI.

Year	Citation
2026	Sanghera, A.; Singh, P.; Chu, E.; Leem, S.; Li, R.; Ghattan, S.; Tai, A.M.Y.* Semi-supervised vessel trajectory analysis for unregulated fishing activity detection. <i>Engineering Applications of Artificial Intelligence</i> , 169, 113933. doi:10.1016/j.engappai.2026.113933. Corrigendum: <i>Engineering Applications of Artificial Intelligence</i> , 172, 114387 (2026). doi:10.1016/j.engappai.2026.114387.
2026	Tai, A.M.Y.; Hickie, I.; Capon, W.; Prodan, A.; Sanghera, A.; Krausz, M.; Iorfino, F. Rethinking AI in youth mental health: promise, perils, and ethical integration. <i>International Journal of Mental Health Systems</i> , 20(1). doi:10.1186/s13033-026-00714-z.
2025	Tai, A.M.Y.; Kazemi, A.; Kim, J.J.; Schmeckenbecher, J.; Kitchin, V.; Suen, J.; Moro, R.; Krausz, R.M. Utilizing Machine Learning for Early Intervention and Risk Management in the Opioid Overdose Crisis. <i>WIREs Computational Statistics</i> , 17(1), e70008. doi:10.1002/wics.70008.
2024	Tai, A.M.Y.; Kim, J.J.; Schmeckenbecher, J.; Kitchin, V.; Wang, J.; Kazemi, A.; Krausz, R.M. Clinical decision support systems in addiction and concurrent disorders: A systematic review and meta-analysis. <i>Journal of Evaluation in Clinical Practice</i> , 30(8), 1664-1683. doi:10.1111/jep.14069.
2024	Kazemi, A.; Boyd, M.; Choi, F.; Tai, A.M.Y.; Tsang, V.W.L.; To, T.; Kim, J.; Jang, K.; Schmeckenbecher, J.; Krausz, R.M. Architecture and development framework for a web-based risk assessment and management platform developed on WordPress to address opioid overdose. <i>JMIR Formative Research</i> , 8, e49759. doi:10.2196/49759.
2024	Krausz, R.M.; Westenberg, J.N.; Tai, A.M.Y.; Fadakar, H.; Seethapathy, V.; Buxton, J.; Hayashi, K.; Milloy, M.J. A call for an evidence-based strategy against the overdose crisis. <i>The Canadian Journal of Psychiatry</i> , 69(1), 5-9. doi:10.1177/07067437231188202.
2023	Tai, A.M.Y.; Meyer, M.; Varidel, M.; Prodan, A.; Vogel, M.; Iorfino, F.; Krausz, R.M. Exploring the potential and limitations of ChatGPT for academic peer-reviewed writing: Addressing linguistic injustice and ethical concerns. <i>Journal of Academic Language and Learning</i> , 17(1), T16-T30. https://journal.aall.org.au/index.php/jall/article/view/903 .
2023	Shams, F.; Tai, A.M.Y.; Kim, J.; Boyd, M.; Meyer, M.; Kazemi, A.; Krausz, R.M. Adherence to e-health interventions for substance use and the factors influencing it: Systematic review, meta-analysis, and meta-regression. <i>Digital Health</i> , 9, 20552076231203876. doi:10.1177/20552076231203876.
2023	Sudan, H.K.; Tai, A.M.Y.; Kim, J.; Krausz, R.M. Decrypting the cryptomarkets: Trends over a decade of the Dark Web drug trade. <i>Drug Science, Policy and Law</i> , 9, 20503245231215668. doi:10.1177/20503245231215668.
2023	Tai, A.M.Y.; Suen, J.; Kamel, M.M.; Schomerus, G.; Maremmani, A.G.I.; Krausz, R.M. Medical students' views on psychiatry in Germany and Italy: Survey. <i>International Journal of Mental Health Promotion</i> , 25(9), 985-993. doi:10.32604/ijmhp.2023.030087.

Year	Citation
2022	Mamdouh, M.; Tai, A.M.Y.; Westenberg, J.N.; Shams, F.; Jang, K.; Badawy, A.; Krausz, R.M. Egyptian students open to digital mental health care: Cross-sectional survey. <i>JMIR Formative Research</i> , 6(3), e31727. doi:10.2196/31727.
2022	Westenberg, J.N.; Tai, A.M.Y.; Elsner, J.; Kamel, M.M.; Wong, J.S.H.; Azar, P.; Vo, D.X.; Krausz, R.M. Treatment approaches and outcome trajectories for youth with high-risk opioid use: A narrative review. <i>Early Intervention in Psychiatry</i> , 16(3), 207-220. doi:10.1111/eip.13155.
2019	Tai, A.M.Y.; Albuquerque, A.; Carmona, N.E.; Subramanieapillai, M.; Cha, D.S.; Sheko, M.; Lee, Y.; Mansur, R.; McIntyre, R.S. Machine learning and big data: Implications for disease modeling and therapeutic discovery in psychiatry. <i>Artificial Intelligence in Medicine</i> , 99, 101704. doi:10.1016/j.artmed.2019.101704.

Preprints

Year	Citation
2025	Tai, A.M.Y.; Kazemi, A.; Krausz, R.M. A machine learning approach: A classification model for overdose. <i>Research Square</i> . doi:10.21203/rs.3.rs-7380471/v1. Preprint of the manuscript under review at BMC Public Health.
2022	Tai, A.M.Y.; Suen, J.; Chopra, G.; Westenberg, J.N.; Elsner, J.; Cabanis, M.; Kamel, M.M.; Schomerus, G.; Bluhm, M.; Maremmanni, A.G.I.; Moghadam, A.; Meyer, M.; Choi, F.; et al. Personal and educational experiences of medical students on attitudes towards psychiatry. <i>Research Square</i> . doi:10.21203/rs.3.rs-2299344/v1.

Submitted / Under Review

Year	Authors	Title	Venue	Status
2025	Tai, A.M.Y.; Kazemi, A.; Krausz, R.M.	A machine learning approach: A classification model for overdose	BMC Public Health	Under review. Revised submission passed technical checks; with editor for decision. Preprint at Research Square.
2025	Sanghera, A.; Diwan, A.; Daswani, R.; Tai, A.M.Y.; Krausz, R.M.	Role of Artificial Intelligence in mental health	Innovations in Global Mental Health (Springer)	Under review. Book chapter.

Manuscript Review Activities

37 completed reviews of 29 manuscripts for 11 journals. Review dates cross-checked against the ORCID record (0000-0001-5262-8615), September 2026. Review rounds of the same manuscript are grouped; titles not made public by the journal while under review are withheld.

Manuscript title	Journal	Review rounds
Use of Voice Features from Smartphones for Monitoring Depressive Disorders: Scoping Review	Digital Health	Mar 2024
Exploring student preferences for implementing a digital mental health intervention in a university setting: Qualitative study within a randomised controlled trial	Digital Health	Jul 2024
Effective elements of eHealth interventions for mental health and well-being in children and adolescents: A systematic review	Digital Health	Aug 2024
Evaluating the Readability and Reliability of Large Language Model Generated Information About Anxiety and Depression	Digital Health	Jan 2025
Ethical and Social Issues in Prediction of Risk of Severe Mental Illness: A Scoping Review	BMC Psychiatry	Jan 2025
DepGLM: Depression Degree Recognition on Social Media Based on Large Language Models	Digital Health	Mar 2025
Mediating Effect of Depression on the Relationship of Short Video Use and Insomnia Symptoms Among Rural Adults: A Representative Cross-Sectional Survey in Shandong Province	Digital Health	Apr 2025
Objective Screening of Adolescent Major Depressive Disorder Using Computerized Cognitive Markers: A LASSO Regression Model Validated Against PHQ-9	BMC Psychiatry	Jun 2025
Technology for Mental Health: Reflections on Scope and Future Directions in Institutes of Higher Education in India	Online Journal of Public Health Informatics	Jul 2025; Oct 2025
Mental health problems raise the odds of cognitive impairment in COVID-19 survivors	Journal of Evidence Based Medicine	Jul 2025
AI Applications in Depression Detection and Diagnosis: Bibliometric and Visual Analysis of Trends and Future Directions	JMIR Mental Health	Jul 2025; Sep 2025
Using Smartphone-Tracked Behavioural Markers to Recognize Depression and Anxiety Symptoms: Digital Phenotyping in the Netherlands Study of Depression and Anxiety	JMIR Mental Health	Aug 2025
Development and Validation of a Machine Learning-Based Predictive Model for Anxiety Disorders in Patients with Premature Ejaculation: A Multicenter Prospective Study	JMIR Formative Research	Sep 2025; Nov 2025
A Machine-Learning-Derived Online Prediction Platform for Rapid Decline in Kidney Function Risk among Community-Dwelling Middle-Aged and Older Adults: a Nationwide Cohort Study	JMIR Aging	Sep 2025; Dec 2025

Manuscript title	Journal	Review rounds
Classification of Tourette’s Syndrome Using Cortico-Striatal-Thalamic-Cortical Circuit Segmentation and Convolutional Neural Networks: A Machine Learning Study	JMIR AI	Sep 2025; Jan 2026
Predicting Suicidal Ideation Among U.S. Adolescents Using Supervised Machine Learning and AI-Driven Deep Learning: Algorithm Development and Validation Study	JMIR AI	Oct 2025
[Title withheld: under review]	Journal of Medical Internet Research	Dec 2025
A Voice-Enabled Virtual Patient System for Interactive Training in Standardized Clinical Assessment	Journal of Medical Internet Research	Jan 2026
Detecting Uncoded Self-Harm in Veterans’ Electronic Health Records Using Positive and Unlabeled Learning: Retrospective Cohort Study	Journal of Medical Internet Research	Jan 2026
[Title withheld: under review]	Journal of Medical Internet Research	Feb 2026; Apr 2026
Prediction Models for In-Hospital Delirium Using Routinely Collected Electronic Health Record Data: A Systematic Review	JMIR Medical Informatics	Mar 2026
[Title withheld: under review]	Journal of Medical Internet Research	Apr 2026; Aug 2026
10 Years of BRAVE Self-Help Service Delivery for Child and Adolescent Anxiety in Australia: An Open Effectiveness-Implementation Trial	Journal of Medical Internet Research	Apr 2026
Should I and Can I Use AI for Forensic Psychiatry Report Writing?	JMIR Mental Health	May 2026
Risk Factors for Non-Initiation and Dropout in Blended Therapy in Outpatient Psychiatric Care	JMIR Human Factors	May 2026
[Title withheld: under review]	Journal of Medical Internet Research	May 2026
A Two-Stage Selective Escalation Framework for Robust Suicide Risk Detection on Social Media: Machine Learning Study	JMIR AI	May 2026; Aug 2026
[Title withheld: under review]	Journal of Medical Internet Research	Jul 2026
[Title withheld: under review]	JMIR Medical Informatics	Aug 2026

Research Funding

Funder	Project	Amount	Years	Role
Health Canada, Substance Use and Addictions Program	Risk Assessment and Management Platform (RAMP): An online overdose risk score with tailored feedback	\$1,407,790	2019 – 2024	Co-Investigator

Published Software

Package	Description	Repository
GGenemy	R package for automated auditing of ggplot2 visualizations for accessibility, readability, and misleading practices. Color vision deficiency simulation; WCAG 2.1 contrast ratios; detection of truncated axes, small text, missing labels, inadequate point sizes, color-only encoding; automated fix suggestions.	CRAN: https://cran.r-project.org/web/packages/GGenemy/index.html

Service and Leadership

Dates	Role	Organization	Notes
2025 – Jun 2026	Coordinator, EDI Seminar Series	Department of Statistics, UBC	Speaker invitation and scheduling for the department EDI seminar series.
Sep 2025 – Jun 2026	Postdoctoral Representative, SEDI Committee	Department of Statistics, UBC	Equity, diversity, and inclusion initiatives, policy, seminars, and mentorship programs.
Jan 2025 – Feb 2025	Member, Selection Committee	MasterCard Foundation and UBC	Reviewed approximately 150 scholarship applications for a fair and inclusive selection process.

Awards and Honors

Year	Award	Notes
2022 – 2023	Mitacs Globalink Research Award	\$6,000 (stipend and research costs) for visiting research at University of Sydney
2021 – 2022	UBC MDS Teaching Assistant Award	Outstanding TA contributions across multiple MDS courses
2021 – 2023	President’s Academic Excellence Initiative PhD Award	UBC program recognition for PhD research contributions
2021	UBC Research Day People’s Choice (Lightning Talk and ePoster)	AI/ML overdose risk modeling
2019	Faculty of Medicine Graduate Award	UBC
2019	NIDA Travel Award	\$500 USD (2020 NIDA International Forum)

Certifications and Professional Development

Dates	Item	Notes
Jul 2025	ICML 2025 (Vancouver)	Conference attendance
Aug 2024	Instructional Skills Workshop (ISW) – UBC CTLT	Teaching effectiveness, active learning, assessment

Dates	Item	Notes
Sep 2024 – Apr 2025	Teaching Development Program (TDP) for New Faculty – UBC IFSE Officers’, Partners’ and Directors’ Course First Aid and CPR-C; NLS Lifeguard; Naloxone Training	40-55 hours; reflective practice; learner-centered strategies; Indigenous engagement; inclusive pedagogy

Selected Presentations (Invited Talks, Workshops, Posters)

Date	Event and venue	Contribution
Jun 9-10, 2023	1st Canadian Academy of Addiction Psychiatry (CAAP) Conference – UBC/BCMHSUS/PHSA	Event coordinator and participant
Mar 9, 2023	3rd Annual BC Concurrent Disorders Conference – BCMHSUS	Lightning talk: ML predictive model for overdose
Apr 18, 2023	Let’s Talk Overdose: Shortcut to Survival (Youth)	Presenter
Dec 6, 2022	Translation in Action: Neuropsychiatry to Health Solutions	Live e-poster: ML and overdose risk
Apr 6-7, 2022	Let’s Talk Overdose	Workshops: Risk assessment and classification (with Drs. Ng and Kazemi); decision support implementation (with Jane Kim)
Jan 25, 2022	Virtual Solutions for Substance Use	Workshop: Chatbots in substance use care (with Jane Kim)
Jun 23, 2021	Let’s Talk Overdose: The Hidden Pandemic	Workshop: Overdose risk factors (with C. Hutton)
Apr 3, 2021	UBC Psychiatry Research Day	Poster: ML overdose risk (preliminary model)
Mar 3-4, 2021	10th Annual E-Mental Health Conference	Workshop: ML risk factors of fatal overdose (with A. Kazemi)
Jan 25, 2021	High-Risk Substance Use and Overdose Among Youth	Workshop moderator (3 themed blocks)
Dec 9, 2020	Virtual Solutions for Substance Use Care	Keynote: ML methods and predictive modeling (with A. Kazemi)
Nov 25, 2020	CAIDA: BC’s AI Showcase	Poster: Predictive model for overdose
Oct 21, 2020	CAPE Annual Scientific Symposium	Poster: Predictive model for overdose
Sep 24-25, 2020	2nd International Psychiatry Congress (Tanta, Egypt)	Keynote (15 min): ML in psychiatry and public health
Jun 20-24, 2020	CPDD International Workshop	Poster: Review of OUD treatments for youth
Jun 19-21, 2020	NIDA International Forum	Poster: Review of OUD treatments for youth
Feb 2020	BCCDC GEOOD Conference	Public health agenda for geographic overdose contributors
Jun 20, 2019	UBC Psychiatry Research Day	Lightning talk: RAMP
Jun 2019	World Congress of Biological Psychiatry	Contributor: Microglial morphology study
Feb 1-2, 2019	Addiction and Concurrent Disorders E-Mental Health Conference	Posters: AI in fatal overdose prediction; technology access and literacy in concurrent disorders

International Research Experience

Dates	Institution	Project and supervisors
Oct 30, 2022 – Jan 22, 2023	University of Sydney , Brain and Mind Centre (Digital Mental Health Team)	Project: Machine Learning Synergy. Home supervisor: Dr. Michael Krausz. Hosts: Prof. Ian Hickie; Dr. Frank Iorfino. Funding: Mitacs Globalink.

Mentorship and Supervision

Dates	Mentee or program	Topic or project
2025 – Present	Agam Sanghera (PhD student, Neuroscience)	Thesis in progress
Jan 2025 – Apr 2025	Faculty Mentor, UBC Integrated Sciences (F. Farouj)	Curriculum and degree planning (data science, computer science, neuroscience)
Jan 2025 – Apr 2025	Mentor, Venture Founder C49 (Innovation UBC)	Strategy coaching for early-stage ventures
Jan 2023 – May 2023	J. Feng (University of Toronto)	Telemedicine versus in-person outcomes in mental health
Jan 2023 – May 2023	S. Jain (Nova Southeastern)	E-health in LMICs
Jan 2023 – May 2023	D. Walji and E. Li (Queen's)	Comorbidities of overdose, systematic review
Jun 2022 – Aug 2022	X. Kong (University of Toronto)	ML feasibility in Alzheimer's neurodegeneration

MDS capstone teams are listed under MDS Capstone Projects (DSCI 591), with roles stated per project. Capstone work with Clarius Mobile Health and VRIFY Technology was presentation evaluation, not supervision.

Community Engagement and Volunteer Work

Dates	Role	Organization and notes
Nov 2025	Judge	Science Case Competition 2025 (SCI TEAM, UBC Faculty of Science); evaluated team presentations on BC wildfire resilience strategies
Jan 2025 – Apr 2025	Mental Health Ministry Coordinator	Tenth Church; monthly seminars; Sanctuary Course (8 weeks)
2024	Panelist	National Undergraduate Research Conference (UBC Neuroscience Club); 323 attendees, 41 research presentations
2019 – Present	Founder	Building Blocks (nonprofit peer mentoring app)
2019 – 2021	Member	Walter Gage Toastmasters (communication and leadership)
2019 – 2023	CS:GO Director	UBC Esports
2019 – 2020	VP Student Life; 1st-year Representative	Neuroscience Graduate Student Association (UBC)
2019 – 2020	Volunteer	Coast Mental Health (Vancouver); mentorship and activities
2018	Charity Intramural All-Star Game	University of Toronto; Right To Play fundraiser
2013 – 2014	HELP Program	Toronto Western Hospital; elder care support

Dates	Role	Organization and notes
2012	ME to We (Kenya)	School construction volunteer (Maasai Mara)

Technical Skills

Category	Tools
Programming	Python; R; JavaScript; React (basic); SQL
Federated learning	Flower framework; federated pipeline design; communication-efficient distributed training
ML and data science	scikit-learn; TensorFlow; PyTorch; BERT/transformers; NLP
LLM infrastructure	Configuring agentic coding tools against a custom LiteLLM gateway; LLM-assisted pipelines
Viz and notebooks	JupyterLab; RStudio; VS Code; Altair; ggplot2
Databases	MongoDB; PostgreSQL; SQL
Cloud and DevOps	Docker; AWS (basics)
Statistics and meta-analysis	SPSS; SAS (basics); Covidence; cumulative link mixed models; Stuart-Maxwell tests
Productivity	MS Office; Google Suite; Slack; Mendeley; Adobe CC; Photoshop; Wix; WordPress; NVivo
Course infrastructure	PrairieLearn assessment and rubric design; Quarto course websites

Athletic Achievement

Years	Achievement
2012 – 2014	Varsity Basketball Team, University of Toronto

References

Name	Role and contact
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