Kyle Hsu

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education

Stanford University Stanford, CA, USA
PhD Candidate in Computer Science 2020-09 – 2025-06 (exp.)
advised by Chelsea Finn and Jiajun Wu

University of Toronto Toronto, ON, Canada
BASc in Engineering Science 2015-09 – 2018-05, 2019-09 – 2020-05
high honors, 3.98/4.00 CGPA

Sir Winston Churchill Secondary School Vancouver, BC, Canada
International Baccalaureate Diploma Program 2013-09 – 2015-06
43/45 points

professional experience

Toyota Research Institute Los Altos, CA, USA
Research Intern w/ Blake Wulfe 2024-06 – 2024-09
large behavior models

Google Brain (now Google DeepMind) Mountain View, CA, USA
Research Intern w/ Shane Gu 2020-06 – 2020-09
data generation for generalizable robotic manipulation

Vector Institute Toronto, ON, Canada
Undergraduate Thesis Student w/ Roger Grosse 2019-09 – 2020-05
differentiable annealed importance sampling

Undergraduate Researcher w/ Dan Roy 2019-12 – 2020-02
PAC-Bayes bound optimization

Berkeley Artificial Intelligence Research Berkeley, CA, USA
Visiting Student Researcher w/ Sergey Levine 2018-06 – 2019-05
unsupervised meta-learning

Max Planck Institute for Software Systems Kaiserslautern, RP, Germany
Research Intern w/ Rupak Majumdar 2017-06 – 2017-09
scalable abstraction-based controller synthesis

Micro/NanoPhotonics Lab Toronto, ON, Canada
Undergraduate Researcher w/ Joyce Poon 2016-05 – 2016-11
waveguide-based external-cavity semiconductor lasers

Integrated Photonics Lab Berkeley, CA, USA
Research Volunteer with Ming C. Wu 2014-06 – 2014-08
wrap-around sililcon-germanium photodetectors

honors and awards

Postgraduate Scholarship – Doctoral (PGS D), NSERC 2023
to fund Canadian doctoral students for 3 years

Canada Graduate Scholarship – Doctoral (CGS D), NSERC [declined] 2023
for a highly scored PGS D application

Sequoia Capital Stanford Graduate Fellowship, Stanford University to fully fund doctoral students for 3 years	2020
Finalist, Outstanding Undergraduate Researcher Award, CRA for undergraduate computer science research in North America	2020
Engineering Science Award of Excellence, University of Toronto for academic achievement across all semesters	2020
Wallberg Undergraduate Scholarship, University of Toronto for academic standing	2016, 2017, 2019
Research in Science and Engineering Scholarship, DAAD to fund a summer research internship in Germany	2017
Undergraduate Student Research Award, NSERC [declined] to fund a summer research internship in Canada	2017
Engineering Science Research Opportunities Fellowship, University of Toronto to fund a summer research fellowship	2016
Walter Scott Guest Memorial Scholarship, University of Toronto for academic standing	2015

selected publications

for full list, please see `my Google Scholar profile`
denotes equal contribution

representation learning

Flow to the mode: mode-seeking diffusion autoencoders for state-of-the-art image tokenization   2025
Kyle Sargent, Kyle Hsu, Justin Johnson, Li Fei-Fei, Jiajun Wu
preprint

Range, not independence, drives modularity in biologically inspired representations   2025
Will Dorrell*, Kyle Hsu*, Luke Hollingsworth, Jin Hwa Lee, Jiajun Wu, Chelsea Finn, Peter E Latham, Timothy Edward John Behrens, James CR Whittington
International Conference on Representation Learning (ICLR)

Tripod: three complementary inductive biases for disentangled representation learning   2024
Kyle Hsu*, Jubayer Ibn Hamid*, Kaylee Burns, Chelsea Finn, Jiajun Wu
International Conference on Machine Learning (ICML)

Disentanglement via latent quantization   2023
Kyle Hsu, Will Dorrell, James CR Whittington, Jiajun Wu, Chelsea Finn
Neural Information Processing Systems (NeurIPS)

robot learning

Evaluating real-world robot manipulation policies in simulation   2024
Xuanlin Li*, Kyle Hsu*, Jiayuan Gu*, Karl Pertsch, Oier Mees, Homer Rich Walke, Chuyuan Fu, Ishikaa Lunawat, Isabel Sieh, Sean Kirmani, Sergey Levine, Jiajun Wu, Chelsea Finn, Hao Su, Quan Vuong, Ted Xiao
Conference on Robot Learning (CoRL)

Vision-based manipulators need to also see from their hands   2022
Kyle Hsu*, Moo Jin Kim*, Rafael Rafailov, Jiajun Wu, Chelsea Finn
International Conference on Learning Representations (ICLR) oral presentation

few-shot learning

FSPO: few-shot preference optimization of synthetic preference data in LLMs elicits effective personalization to real users   2025
Anikait Singh*, Sheryl Hsu, Kyle Hsu, Eric Mitchell, Stefano Ermon, Tatsunori Hashimoto, Archit Sharma, Chelsea Finn
preprint

Unsupervised curricula for visual meta-reinforcement learning   2019
Allan Jabri, Kyle Hsu, Ben Eysenbach, Abhishek Gupta, Sergey Levine, Chelsea Finn
Neural Information Processing Systems (NeurIPS) spotlight presentation

Unsupervised learning via meta-learning   2019
Kyle Hsu, Sergey Levine, Chelsea Finn
International Conference on Learning Representations (ICLR)

misc. machine learning

Differentiable annealed importance sampling and the perils of gradient noise   2021
Guodong Zhang, Kyle Hsu, Jianing Li, Chelsea Finn, Roger Grosse
Neural Information Processing Systems (NeurIPS)

On the role of data in PAC-Bayes bounds   2021
Gintare Karolina Dziugaite, Kyle Hsu, Waseem Gharbieh, Gabriel Arpino, Daniel M Roy
International Conference on Artificial Intelligence and Statistics (AISTATS)

scalable abstraction-based controller synthesis

Lazy abstraction-based controller synthesis   2019
Kyle Hsu, Rupak Majumdar, Kaushik Mallik, Anne-Kathrin Schmuck
International Symposium on Automated Technology for Verification and Analysis (ATVA) invited paper

Multi-layered abstraction-based controller synthesis for continuous-time systems   2018
Kyle Hsu, Rupak Majumdar, Kaushik Mallik, Anne-Kathrin Schmuck
International Conference on Hybrid Systems: Computation and Control (HSCC)

service

peer review
denotes outstanding reviewer award

International Conference on Learning Representations (ICLR)	2021*, 2022, 2023*
International Conference on Machine Learning (ICML)	2020, 2021, 2022
Neural Information Processing Systems (NeurIPS)	2019, 2020, 2021, 2022, 2023
International Conference on Artificial Intelligence and Statistics (AISTATS)	2021
Reinforcement Learning Conference (RLC)	2024

Stanford University   Stanford, CA, USA
Student Reader, Computer Science PhD Admissions Committee	2021, 2023
Section Leader, Code in Place	2021
Mentor, Computer Science Mentoring Program	2020, 2021
Reviewer, Student-Applicant Support Program	2020

University of Toronto   Toronto, ON, Canada
Mentor, NSight Mentorship Program	2017, 2018, 2019
Group "Leedur", Engineering Orientation Week	2016, 2019
Director of Business Development, You're Next Career Network	2017
Undergraduate Engineering Journal Editor, Galbraith Society	2016

teaching

Stanford University   Stanford, CA, USA
Teaching Assistant, CS 330: Deep Multi-Task and Meta Learning   2021, 2022

mentorship

Jubayer Ibn Hamid (Stanford BS, now Stanford PhD)
Isabel Sieh (Stanford BS)
Moo Jin Kim (Stanford MS, now Stanford PhD)
Ishikaa Lunawat (Stanford MS)

skills and interests

technical skills
code: Python, JAX, PyTorch, C++, git, LaTeX
dissemination: technical writing & figure-making, Keynote, basic web design & video editing

misc. skills
bilingual (Mandarin)

hobbies
ski & snowboard, Soulslike & board games, SCUBA