

# Kyle Hsu

kylehsu@cs.stanford.edu

kylehsu.org

## EDUCATION

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**Stanford University** Stanford, CA, USA  
Doctor of Philosophy Student in Computer Science 2020-09 – ongoing  
advised by Prof. Chelsea Finn and Prof. Jiajun Wu

**University of Toronto** Toronto, ON, Canada  
Bachelor of Applied Science in Engineering Science, Major in Robotics Engineering 2015 – 2018, 2019 – 2020  
CGPA: 3.98/4.00, graduation with high honours

**Sir Winston Churchill Secondary School** Vancouver, BC, Canada  
International Baccalaureate Diploma 2013 – 2015  
points: 43/45

## RESEARCH EXPERIENCES

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**Brain Team, Google** Mountain View, CA, USA (remotely)  
Research Intern with Dr. Shane Gu 2020-06 – 2020-09  
topic(s): trajectory optimization for generalization in robotic manipulation

**Vector Institute & University of Toronto** Toronto, ON, Canada  
Undergraduate Researcher with Prof. Roger Grosse and Prof. Daniel Roy 2019-06 – 2020-05  
topic(s): differentiable annealed importance sampling, PAC-Bayes bound optimization

**Berkeley AI Research, UC Berkeley** Berkeley, CA, USA  
Visiting Student Researcher with Prof. Sergey Levine 2018-06 – 2019-05  
topic(s): unsupervised meta-learning for few-shot image classification and reinforcement learning

**Max Planck Institute for Software Systems** Kaiserslautern, RP, Germany  
Research Intern with Prof. Rupak Majumdar 2017-06 – 2018-04  
topic(s): scalable abstraction-based controller synthesis algorithms

**Micro/NanoPhotonics Lab, University of Toronto** Toronto, ON, Canada  
Undergraduate Researcher with Prof. Joyce Poon 2016-05 – 2016-11  
topic(s): characterizing on-chip waveguide-based external-cavity semiconductor lasers

**Integrated Photonics Lab, UC Berkeley** Berkeley, CA, USA  
Research Volunteer with Prof. Ming C. Wu 2014-06 – 2014-08  
topic(s): characterizing wrap-around silicon-germanium photodetectors

## HONORS AND AWARDS

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**Sequoia Capital Stanford Graduate Fellowship**, Stanford University 2020  
awarded to fully fund outstanding doctoral students for 3 years

**Finalist, Outstanding Undergraduate Researcher Award**, Computing Research Association (CRA) 2020  
awarded to top undergraduate computer science researchers in North America

**Engineering Science Award of Excellence**, University of Toronto 2020  
awarded to top engineering science students for academic achievement across all semesters

**Wallberg Undergraduate Scholarship**, University of Toronto 2016, 2017, 2019  
awarded on the basis of academic standing

<b>Research in Science and Engineering Scholarship</b> , German Academic Exchange Service (DAAD) awarded to fund a summer research internship in Germany	2017
<b>Undergraduate Student Research Award</b> , NSERC [ <i>declined</i> ] awarded to fund a summer research internship in Canada	2017
<b>Engineering Science Research Opportunities Fellowship</b> , University of Toronto awarded to fund a summer research fellowship at the University of Toronto	2016
<b>Walter Scott Guest Memorial Scholarship</b> , University of Toronto awarded on the basis of academic standing	2015

#### HONORS AND AWARDS: NEAR MISSES

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<b>Finalist, Knight-Hennessy Scholars Fellowship</b> , Stanford University	2020
<b>Interviewee, Open Phil AI Fellowship</b> , Open Philanthropy	2020

#### PUBLICATIONS

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##### UNDER REVIEW

- [1] **Kyle Hsu**<sup>\*</sup>, Moo Jin Kim<sup>\*</sup>, Rafael Rafailov, Jiajun Wu, and Chelsea Finn, “Vision-based manipulators need to also see from their hands”, under review at *International Conference on Learning Representations (ICLR)*, 2022.

##### PEER-REVIEWED CONFERENCE AND JOURNAL PAPERS

- [7] Guodong Zhang, **Kyle Hsu**, Jianing Li, Chelsea Finn, and Roger Grosse, “Differentiable annealed importance sampling and the perils of gradient noise”, in *Neural Information Processing Systems (NeurIPS)*, 2021.
- [6] Gintare Karolina Dziugaite, **Kyle Hsu**, Waseem Gharbieh, Gabriel Arpino, and Daniel M. Roy, “On the role of data in PAC-Bayes bounds”, in *International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2021.
- [5] Allan Jabri, **Kyle Hsu**, Benjamin Eysenbach, Abhishek Gupta, Sergey Levine, and Chelsea Finn, “Unsupervised curricula for visual meta-reinforcement learning”, in *Neural Information Processing Systems (NeurIPS)*, **spotlight presentation**, 2019.
- [4] **Kyle Hsu**, Sergey Levine, and Chelsea Finn, “Unsupervised learning via meta-learning”, in *International Conference on Learning Representations (ICLR)*, 2019.
- [3] <sup>†</sup>**Kyle Hsu**, Rupak Majumdar, Kaushik Mallik, and Anne-Kathrin Schmuck, “Lazy abstraction-based control for safety specifications”, in *Conference on Decision and Control (CDC)*, 2018.
- [2] <sup>†</sup>**Kyle Hsu**, Rupak Majumdar, Kaushik Mallik, and Anne-Kathrin Schmuck, “Multi-layered abstraction-based controller synthesis for continuous-time systems”, in *International Conference on Hybrid Systems: Computation and Control (HSCC)*, 2018.
- [1] Ryan Going, Tae Joon Seok, Jodi Loo, **Kyle Hsu**, and Ming C. Wu, “Germanium wrap-around photodetectors on silicon photonics”, *Optics Express*, 2015.

##### INVITED PAPERS

- [1] <sup>†</sup>**Kyle Hsu**, Rupak Majumdar, Kaushik Mallik, and Anne-Kathrin Schmuck, “Lazy abstraction-based controller synthesis”, in *International Symposium on Automated Technology for Verification and Analysis (ATVA)*, 2019.

\*co-first authorship

<sup>†</sup>alphabetical author ordering

## RESEARCH MENTORSHIP

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Tyler Lum (UBC BSc)	2021 – ongoing
Sidhart Krishnan (Stanford BSc)	2021 – ongoing
Moo Jin Kim (Stanford MS)	2021 – ongoing
Winnie Xu (Toronto BSc)	2020 – ongoing

## TEACHING

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<b>CS 330: Deep Multi-Task and Meta Learning</b> , Stanford University Course Assistant	2021
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## PROFESSIONAL ACTIVITIES

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### CONFERENCE PAPER REVIEWING

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

\*outstanding reviewer award

### WORKSHOP PAPER REVIEWING

ICLR Workshop on Beyond “Tabula Rasa” in Reinforcement Learning (BeTR-RL)	2020
NeurIPS Workshop on Meta-Learning	2019, 2020

## COMMUNITY SERVICE

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<b>CS PhD Admissions Committee, Stanford University</b> Student Reader	Stanford, CA, USA 2021-11 – ongoing
<b>Code in Place, Stanford University</b> Section Leader	Stanford, CA, USA 2021-04 – 2021-05
<b>CS Undergraduate Mentoring Program, Stanford University</b> Mentor	Stanford, CA, USA 2020-09 – 2021-06
<b>Student-Applicant Support Program, Stanford University</b> Reviewer	Stanford, CA, USA 2020
<b>NSight Mentorship Program, University of Toronto</b> Mentor	Toronto, ON, Canada 2017-09 – 2020-04
<b>Engineering Orientation Week, University of Toronto</b> Group Leader (“Leedur”)	Toronto, ON, Canada 2016, 2019
<b>You’re Next Career Network, University of Toronto</b> Director of Business Development	Toronto, ON, Canada 2017-03 – 2018-04
<b>Galbraith Society, University of Toronto</b> Undergraduate Engineering Journal Editor	Toronto, ON, Canada 2016-10 – 2017-07

## TECHNICAL SKILLS

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languages: Python, C++, MATLAB  
libraries and tools: Unix, PyTorch, TensorFlow, JAX, Docker, Matplotlib, git, bash, L<sup>A</sup>T<sub>E</sub>X