AKHIL BAGARIA

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EDUCATION

Brown University   *2018-Present*
Candidate for Doctor of Philosophy, Computer Science
Research area: Reinforcement Learning
Advisor: George Konidaris

Brown University   *2018-2020*
Master of Science, Computer Science
GPA: 4.0/4.0

Harvey Mudd College   *2012-2016*
Bachelor of Science, Engineering
GPA: 3.2/4.0; Graduated with Honors

INDUSTRY EXPERIENCE

Apple Inc   August 2016 - July 2018
Sensor Algorithms Engineer   *Cupertino, CA*

· As part of the Multitouch team at Apple, I made improvements to the touch classification performance on Macbook trackpads (shipping on all Macbooks since 2016) and developed a new suite of text-editing gestures in iPad OS (shipping on all iPads since 2019).

Formlabs   May - July 2015
Electrical Engineering Intern   *Somerville, MA*

· Worked on the control system that shipped as part of the company's flagship Form2 3D printer.

PUBLICATIONS

Conference Publications

1. **Akhil Bagaria**, Jason Senthil, George Konidaris. Skill Discovery for Exploration and Planning using Deep Skill Graphs. *International Conference on Machine Learning (ICML), 2021.*
Accepted for a Long Talk presentation (**Top 3% of submissions**).

2. **Akhil Bagaria**, Jason Senthil, Matthew Slivinski, George Konidaris. Robustly Learning Composable Options in Deep Reinforcement Learning. *International Joint Conference on Artificial Intelligence (IJCAI), 2021.*

3. **Akhil Bagaria**, George Konidaris. Option Discovery using Deep Skill Chaining. *International Conference on Learning Representations (ICLR), 2020.*

In Submission

1. Sam Lobel, Cam Allen, Omer Gottesman, **Akhil Bagaria**, George Konidaris. Optimistic Initialization for Exploration in Continuous Control. *In Submission, The AAAI Conference on Artificial Intelligence (AAAI), 2021.*

Workshop Publications

1. **Akhil Bagaria**, Seungchan Kim, Alessio Mazzetto, Rafael Rodriguez-Sanchez. Replication of a Unified Bellman Optimality Principle Combining Reward Maximization and Empowerment. *Replication Challenge, Conference on Neural Information Processing Systems (NeurIPS), 2019.*

2. **Akhil Bagaria**, Jason Crowley, Nicholas Lim, George Konidaris. Skill Discovery for Exploration and Planning using Deep Skill Graphs. *4th Lifelong Learning Workshop, International Conference on Machine Learning (ICML), 2020.*

3. **Akhil Bagaria**, George Konidaris. Option Discovery using Deep Skill Chaining. *Deep RL Workshop, Conference on Neural Information Processing Systems (NeurIPS), 2019.*

PROJECT EXPERIENCE

Team Leader, Hand Tremor Detection using Wearables. 2015-2016
Apple Inc & University of Utah

Undergraduate capstone project: we conducted a study with 20+ liver transplant patients at University of Utah to collect accelerometer data using Apple Watches. We then developed a tremor detection algorithm using signal processing and machine learning techniques.

Co-Founder & Team Leader, Mudd Aerial Systems Team 2015-2016
Harvey Mudd College, CA

Took apart an RC plane and made it autonomous by implementing an onboard closed-loop controller.

Co-Founder & Leader, Hardware Hackathon 2015, 2016
The Claremont Colleges, CA

Organized the Claremont Colleges' first hardware hackathon and raised $5000+ of funding.

International Computer Engineering Experience (ICEX) Intern 2014-2015
Lab for Autonomous and Intelligent Robotics, Harvey Mudd College

Deployed autonomous underwater robots in volcanic lakes in Costa Rica to construct bathymetry maps and CO_2 emission models using custom CO_2 and pH sensors.

Shark Tracking 2015-2016
Lab for Autonomous and Intelligent Robotics, Harvey Mudd College

Identity-aware tracking of sharks in an aerial video taken off the coast of San Diego, CA.

AWARDS AND RECOGNITIONS

- **Engineering Honors**. Awarded by the Harvey Mudd College, Engineering Department for in-major academic excellence and community leadership.

- **J.R Phillips Award for Outstanding Experimental Technique and Engineering Judgment.** Awarded by Harvey Mudd College, Engineering Department.

- **Bill and Melinda Gates Foundation Scholarship.** Full tuition scholarship for attending college. Awarded to applicants who showcase **academic excellence**, **leadership potential** and come from **low-income families**.

- **Best All Round Student.** Awarded by the Indian national newspaper *The Telegraph* for all round excellence in high school.

PROGRAMMING LANGUAGE PROFICIENCY

Proficient in **Python**, C++, C. Proficient in PyTorch, familiar with Tensorflow.