Alyssa Unell

(602)-715-9919 | aunell@mit.edu

EDUCATION

Massachusetts Institute of Technology (MIT) | Cambridge, MA *Exp. May 2023*
Candidate for B.S. in Computation and Cognition with a Minor in Mathematics

- **GPA:** 4.9/5.0
- **Relevant Coursework:** Machine Learning, Artificial Intelligence, Linear Algebra, Mathematics for Computer Science, Multivariable Calculus, Introduction to Software Engineering, Introduction to Algorithms, Probability and Random Variables, Computational Cognitive Science, Matrix Methods for Machine Learning, Computer Vision

RESEARCH & WORK EXPERIENCE

Intel – Architecture and Graphics Software Department | Hillsboro, OR *Jun 2021 - Aug 2021*
Machine Learning Intern

- Reported six bugs within Intel distribution of Pandas library through analysis of a recommender system containing 200 million data points and confirmed 100x delay of Intel Distribution compared to stock Pandas given various commands
- Profiled workflows using numerous profiling visualization tools to provide feedback for the proposed UI of an Intel profiler
- Presented technical concepts to a broad audience and was selected to present at the Intern Showcase

MIT Department of Brain and Cognitive Sciences – Sinha Lab | Cambridge, MA
Undergraduate Researcher, Biologically Inspired Noise *Sep 2020 - Present*

- Examined effects of biologically inspired noise in neural networks to identify the role of noise in infant visual development
- Trained networks using Keras in TensorFlow and assessed impact of training regimes on robustness to noise in testing
- Determined whether specific noise parameters lead to improvements in the network's classification performance

Undergraduate Researcher, Facial Recognition Robustness *Jun 2020-May 2021*

- Compared effects of image degradations on high-performing facial recognition networks classifications to the effect of the degradations in human ability to recognize faces
- Performed clustering analysis on image classifications to assess networks' accuracy of numeric facial encodings
- Utilized virtual machines as well as GPUs for increased computational capacity

Undergraduate Researcher, Visuomotor Feedback *Jan 2020-May 2020*

- Compared tracings done by a subject's non-dominant hand before and after a one-week training period to establish relationship between visual feedback and fine motor control
- Performed image processing to ensure tracing usability in analysis and developed a quantitative image comparison method

Translational Genomics Research Institute – Bioinformatics | Phoenix, AZ *Jun 2020 - Aug 2020*
Summer Intern

- Created a scalable R-Shiny application that dynamically presents plots and tables to display different projects' data
- Interface allowed researchers to visualize gene expression in different biofluids to highlight which biofluid is best to test

Publications

Unell, A., Eisenstat, Z.M., Braun, A. *et al.* Influence of visual feedback persistence on visuo-motor skill improvement. *Sci Rep* **11,** 17347 (2021).

LEADERSHIP

MIT CodeIt *Jan 2020 - Present*
Mentor Coordinator

- Promoted engagement in computer science for middle school girls and non-binary students
- Organized mentor recruitment in a virtual setting and supervised overall club operating logistics

MIT Women's Varsity Volleyball *Aug 2019 - Present*

- Participates on the MIT women's varsity volleyball team

Learning Assistant *Feb 2021 – May 2021*
Introduction to Machine Learning

- Demonstrated mastery of course content by assisting students with assignments and overall conceptual problems

SKILLS & AWARDS

Awards: MIT Brain and Cognitive Science Research Award, National Merit Finalist, AP Scholar with Distinction
Skills/Languages: Python, Java, WebPPL, Git, TensorFlow, Machine Learning, OpenCV, R, Linux, Pandas, Spanish