Ananya Swaminathan

Dayton, NJ 08810 | aswamin3@jhu.edu | 732-208-5336

EDUCATION

Johns Hopkins University — Baltimore, MD
Master of Science, Biomedical Engineering | Focus area: Neuroengineering — Expected Dec 2021
Bachelor of Science, Biomedical Engineering | Focus area: Biomedical Data Science (GPA: 3.77) — May 2021
Minor: Computational Medicine

SKILLS

- Programming: Python, MATLAB, R/Shiny, Java, OpenCV, PyTorch, TensorFlow
- Computer-Aided Design: SolidWorks, Fusion 360, PTC Creo

WORK EXPERIENCE

National Institute of Mental Health — Bethesda, MD
Summer Intern — Jun 2021 - Present
- Analyzing hormonal biomarkers of circadian rhythm disruption in bipolar disorder, depression, and migraine

Johns Hopkins University, Cullen Lab (Systems and Behavioral Neuroscience) — Baltimore, MD
Research Assistant (including summers) — Jun 2018 - Present
- Using computer vision to create tool that can screen mice for vestibular dysfunction
- Developed camera system for real-time detection and analysis of monkey eye movement

Johns Hopkins University — Baltimore, MD
Teaching Assistant — Jan 2020 - Dec 2020
- Guided high schoolers and college freshmen and sophomores through course material
- Held weekly sections and office hours to present supplementary material and take questions
- Taught Cognitive Neuroscience, Engineering and Innovation, and Biochemistry and Molecular Engineering

ENGINEERING EXPERIENCE

Johns Hopkins Center for Bioengineering Innovation and Design — Baltimore, MD
Design Team Member | DT9 — Apr 2020 - Present
- Creating device or procedure to increase ease and efficiency of COVID-19 saliva testing
- Designing parts for prototypes using CAD software
- Writing protocols to test whether prototypes meet user requirements

Johns Hopkins University, Precision Care Medicine — Baltimore, MD
Team Member | Cool Monkey — Sep 2019 - Nov 2020
- Developing novel machine learning based system to predict onset of hypoxemia in ICU patients
- Validating methodology and results through plotting and analyzing feature trends

Johns Hopkins University, Neuro Data Design (Vogelstein Lab) — Baltimore, MD
Team Member | mgcpy — Sep 2018 - May 2019
- Implemented methods of 2-sample testing in Python
- Generated power curves in order to validate these methods

Team Member | LIDS — Feb 2018 - May 2018
- Implemented linear discriminant analysis (LDA) in Python to detect cells in brain slices
- Evaluated the performance through quantitative and qualitative measures

LEADERSHIP AND VOLUNTEER EXPERIENCE

Johns Hopkins University, Department of Biomedical Engineering — Baltimore, MD
Lab Manager | Structural Biology of the Cell — Sep 2019 - Dec 2019
- Guided and supported group of ten freshmen as they completed labs
- Provided students with feedback on their work and mentorship in Biomedical Engineering

Charm City Science League — Baltimore, MD
Mentor (Completed 100 hours of service) — Oct 2017 - May 2021
- Prepared middle schoolers for Science Olympiad tournaments
- Developed curriculum for mentors to use while teaching students