

Ananya Swaminathan

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EDUCATION

Johns Hopkins University

Master of Science, Biomedical Engineering | Focus area: Neuroengineering

Baltimore, MD

Bachelor of Science, Biomedical Engineering | Focus area: Biomedical Data Science (GPA: 3.77)

Expected Dec 2021

Minor: Computational Medicine

May 2021

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

Summer Intern

Bethesda, MD

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)

Research Assistant (including summers)

Baltimore, MD

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

Teaching Assistant

Baltimore, MD

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

Design Team Member | DT9

Baltimore, MD

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

Team Member | Cool Monkey

Baltimore, MD

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)

Team Member | mgcpv

Baltimore, MD

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

Lab Manager | Structural Biology of the Cell

Baltimore, MD

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

Mentor (Completed 100 hours)

Baltimore, MD

October 2017 - May 2021

- Prepared middle schoolers for Science Olympiad tournaments
- Developed curriculum for mentors to use while teaching students