

# Ananya Swaminathan

[aswamin3@jhu.edu](mailto:aswamin3@jhu.edu) | [linkedin.com/ananyas713](https://linkedin.com/ananyas713) | [ananyas713.github.io](https://ananyas713.github.io)

---

## EDUCATION

### Johns Hopkins University

Master of Science in Engineering, Biomedical Engineering | Focus area: Neuroengineering  
Bachelor of Science, Biomedical Engineering | Focus area: Biomedical Data Science  
Minor: Computational Medicine

Baltimore, MD  
Expected Dec 2021  
May 2021

---

## SKILLS

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

---

## WORK EXPERIENCE

### Johns Hopkins University, Cullen Lab (Systems and Behavioral Neuroscience)

Baltimore, MD  
Jun 2018 - Present

#### Research Assistant (including summers)

- 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  
Jan 2020 - Dec 2020

#### Teaching Assistant

- 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  
Apr 2020 - Present

#### Design Team Member | OneShot

- 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  
Sep 2019 - Nov 2020

#### Team Member | Cool Monkey

- Developed novel machine learning based system to predict onset of hypoxemia in ICU patients
- Validated methodology and results through plotting and analyzing feature trends

### Johns Hopkins University, Neuro Data Design (Vogelstein Lab)

Baltimore, MD  
Sep 2018 - May 2019

#### Team Member | mgccpy

- 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  
Sep 2019 - Dec 2019

#### Lab Manager | Structural Biology of the Cell

- 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  
Oct 2017 - May 2021

#### Mentor (Completed 100 hours of service)

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