

# Melvin Osei Opoku

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## EDUCATION

### Bachelor of Science in Biomedical Engineering

University of Florida Honors Program, Gainesville, FL

May 2026  
GPA: 3.8/4.0

## WORK EXPERIENCE

### Undergraduate Research Assistant

Brain Mapping Lab, University of Florida, Gainesville

August 2023 – Present

- Analyse neural data from patients with Tourette syndrome in a Deep Brain Stimulation clinical study
- Develops machine learning algorithm for automated detection of motor and vocal tics

### Research Intern

Murthy Lab, Princeton University, Princeton

June 2024 – August 2024

- Computational analysis of Drosophila's neural wiring diagram to uncover neural computation of the visual system
- Mapped visual neurons' functional data to FlyWire's neural wiring diagram

### Research and Development Intern

American Society of Pharmacognosy, University of Florida, Gainesville

January 2023 – December 2023

- Screened and identified new terpene synthase functions, advancing biotech applications
- Conducted molecular docking and mutations of proteins to characterize enzymatic activity
- Co-authored two published research papers

## INVOLVEMENT & SERVICE

### Product Design

Generational Relief in Prosthetics, University of Florida | Gainesville, FL

August 2023 – Present

- Design and optimize the "Unlimbited" prosthetic arm using SolidWorks
- 3D print and conduct non-destructive testing on the prosthetic arm

### Resident Assistant

Housing and Residential Life, University of Florida | Gainesville, FL

August 2023 – Present

- Devise events to encourage community belonging among my residents.
- Enforce community standards and policies to ensure a safe and supportive living environment
- Serve in an on-call rotation by responding to emergencies and crises

### Undergraduate Teaching Assistant

Secrets of Alchemy, University of Florida | Gainesville, FL

August 2023 – December 2023

- Graded lab reports and provided helpful feedback
- Held office hours to a class of 60 students
- Assisted instructor in preparing the lab, supporting students during lab, and cleaning up

### Director of International Students Affairs

Student Government, University of Florida | Gainesville, FL

August 2022 – May 2024

- Administered mentorship to international students to ensure VISA status management
- Planned events to facilitate international students' involvement on campus

## SKILLS

- Programming:** Python, MATLAB, C++, R, JavaScript, HTML, CSS, Ruby, SLEAP.ai, Label Studio,
- Design & Analysis:** SolidWorks, Fusion 360, Connectomics, AutoDock Vina, Pymol, ChemDraw
- Laboratory:** DMA, TMA, PCR, Genetic Mutation, NMR data analysis, Molecular Docking, GC-Mass data analysis
- Software:** Microsoft Office, Adobe Photoshop, Premiere Pro, After Effects, InDesign
- Hardware:** Circuitry, PCB Design, KiCad,
- Language:** Fluent: English, Twi | Conversational: French

## AWARDS/SCHOLARSHIP

- University Scholars Program- \$1750 research stipend August 2024 – May 2025
- Certificate of Outstanding Merit from the College of Engineering Award November 2023
- UF Hamilton Center Society Fellow- \$2,500 stipend and a funded trip to Oxford and Cambridge University August 2023
- American Society of Pharmacognosy - \$5000 research stipend May 2023 – August 2023
- Wentworth Travel Scholarship – \$500 Research Travel Funding May 2023 – August 2023
- Emerging Scholar Award- \$1000 research stipend January 2023
- Davis United World Scholar- \$192,000 fully funded University of Florida undergraduate degree. August 2022 – May 2026