

Education

Vanderbilt University | Nashville, TN
Bachelor of Science, Computer Science & Mathematics
GPA: 4.0

May 2026, anticipated

Leadership & Professional Experience

Program Management & Marketing Intern @ Pure Mentorship

December 2022 – expected March 2023

- Assist founder in overseeing project schedules and resource management to deliver marketing assets, advertising, and branding
- Develop strategic solutions for outreach with Gantt charts, Trello, and Google Analytics and communicate with 14-person team
- Deliverables: Data-driven reports and website using JavaScript, HTML, and CSS

Alumni Advisory Board Member @ Pioneer Academics

November 2022 – present

- Work with fellow board members to coordinate virtual 2-3 annual Q&A panels
- Support sessions of 60+ current Pioneer scholars by giving advice on high-level engineering research, college readiness, and receiving mentoring from a professor

Podcast Co-Host: *Hot Girl Tech*

October 2022 – present

- Co-host and co-creator of biweekly podcast featuring conversations about our personal experiences as aspiring women-identifying engineers and discussions of computer science introductory topics
- Edit, produce, and release 15-30 minutes episodes on [Spotify](#); reaches 20-30+ listeners per episode

Python Instructor @ Code Ignite

October 2022 – present

- Teach weekly 1-hour Python classes of 5-6 students to underfunded schools in Nashville; currently assigned to West End MS.
- Lecture on fundamental topics, lead programming demos, and coordinate with other instructors to encourage students to pursue computing in the future.

Vanderbilt Engineering Council Board Member

October 2022 – present

- Plan 2-3 community events, lunch committees, and social weeks per semester, allocating budgets of \$800-1000 each
- Help represent engineering student body of 1000+ undergraduates

Academic Projects & Research Experience

Pioneer Academics: Research Scholar

July 2021 – September 2021

- Conducted deep learning research for facial emotion recognition under Prof. Susan Fox of Macalester College
- Coded using Python and OpenCV libraries to test multi-layer network across four micro- and macro-expression datasets
- Achieved val. accuracy of 68%, improving from 63% by reducing overfitting
- Summarized findings in 20-page manuscript discussing human-machine interaction and expression recognition (see portfolio)

Inspirit AI: Criminal Justice

August 2020 – November 2020

- Explored deep learning algorithms for predicting recidivism rates and applied COMPAS dataset, which studies ethnicity, gender, and age of population
- Co-presented on the foundations of machine learning and its relevance to risk assessment and the legal system; concluded that neural networks trade interpretability for higher accuracy (67-74%)

Research: Miniature Origami-Inspired Robotics for Biomedical Applications

June 2020 – April 2021

- Designed ingestible 2in. x 2in. mobile robot for the removal of inadvertently swallowed button batteries in stomach
- Modeled using Blender and SketchUp Layout and tested prototype in bodily environment synthesized from polymer mold
- Received 2nd Award in Biological Science and Engineering at Synopsys Science & Technology Championship and recognized by Mayor and City Council of San Jose for innovative STEM achievements
- Published review paper in international peer-reviewed nanomedicine journal (see portfolio)

Skills & Portfolio

Research Portfolio: tinyurl.com/vparnell

Programming Languages: C++, Java, Python, HTML, JavaScript, CSS