Elijah Parker

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Impact Statement

Currently I'm a wireless communications engineer at the Johns Hopkins Applied Physics Laboratory where I specialize in cellular communications. I'm also using this job as an opportunity to build career capital as I'm working part-time on a master's in Electrical and Computer Engineering at Johns Hopkins University. In my free time, I'm usually 3D printing prosthetic chicken legs, working on an electronics project, reading, playing video games, or exploring museums.

I first heard about Effective Altruism in a TED Talk by Peter Singer, and I immediately knew that this was the kind of person I wanted to be. I went vegan, adjusted my donations to highly effective charities, and began reading all of the typical EA books. In July 2025, I donated one of my kidneys to a stranger, and now I see my next step as using my career to do as much good as possible. I've led many small-scale projects over the past few years, and I'm eager to take my skills to the next level. I'm early in my professional journey, but I'm ready to apply my problem-solving background and EA principles to a high-impact project.

Projects

Distributed Agricultural Monitoring Network(read more on my blog!) *July 2023 – May 2024*

- Auburn University's first international collaboration for a senior design project
- Another Auburn student and I worked with two electrical engineering students from the Technical University of Applied Sciences Würzburg-Schweinfurt (THWS) in Germany to design a LoRaWAN-based agricultural monitoring system.
- We designed a rugged, low-power, low-cost, long-range node capable of recording agricultural parameters (temperature, humidity, atmospheric pressure, soil moisture, soil pH) and reporting the data back to a user-friendly website. This capability allows farmers to precisely monitor field conditions and improve efficiency.
- Managed project budgets, bill of materials, travel, weekly meetings, status reports, Gantt charts, and presentations
- Developed Arduino code, installed a publicly available LoRaWAN gateway on campus, deployed a custom Django website, and demonstrated successful project to faculty and students

3D-Printed Prosthetic Chicken Legs(read more on my blog!) *2022 – Present*

- I worked with animal sanctuaries in Toronto, Florida, and Michigan to design custom, 3D-printable prosthetic legs for three different chicken amputees
- After going vegan, I stumbled across The Browns' Microsanctuary in Toronto asking for help with designing a prosthetic leg for a rescued hen named Elizabeth. After many iterations, we found a design we liked, but Elizabeth died suddenly, ending the project. After writing about this project on my blog, others have reached out asking for help. I'm currently designing a third prosthesis for a rooster at Ahimsa Safe Haven in Michigan. I love doing these projects because they give me an opportunity to talk about animal welfare in my personal life.
- I pioneered a design approach in which a smartphone is used to create a 3D scan of the remaining nub of the amputated leg, which is then used to create a custom silicone part that mates the 3D-printed plastic with the remaining leg

JeopardyPi: Raspberry Pi Trivia System(read more on my blog!) *Jan – June 2023*

- Developed fully functional, Python-based Jeopardy game to run on Raspberry Pi including the dataset, GUI, PCB design for buzzers, and support for a game host

Education

Johns Hopkins University *August 2024 – Present*
MS in Electrical and Computer Engineering

- GPA: 4.0/4.0
- **Coursework:** Algorithms, Digital Signal Processing

Auburn University *August 2019 – May 2024*
BS in Electrical Engineering (Summa Cum Laude)
BS in Computer Engineering (Summa Cum Laude)

- GPA: 4.0/4.0
- **Coursework:** Computer Architecture, Electromagnetism, Algorithms, Random Signals and Systems, Digital Electronics, Analog Electronics, Control Systems, Electrical Power Engineering, Discrete Structures

Experience

Wireless Communications Engineer *Laurel, MD*
Johns Hopkins University Applied Physics Laboratory *June 2024 – Present*

- Worked on multiple collaborative, technical projects primarily as a software developer
- Delivered successful presentations to branch leadership and project sponsors
- Collaborated with other members of the Social Committee to plan events and outings
- Familiarity with:
  - 4G and 5G cellular communications, srsRAN, OpenVPN, C++, Python, wireless and wired networks, REST APIs, RF hardware

Undergraduate AI Researcher *Auburn, AL*
Open-Ended Reasoning and Knowledge Acquisition Lab *Oct 2023 – Apr 2024*

- Implemented MFCC techniques for speech recognition on EPIC-KITCHENS-100 dataset to improve multimodal video understanding

Student Employee *Auburn, AL*
Alabama Micro/Nano Fabrication Lab *Feb 2023 – May 2024*

- Assisted PhD students with chemical processes for microelectronics fabrication
- Designed and manufactured custom aluminum parts using Fusion 360 and Haas CNC
- Maintained Python code to automate chemical inventory tracking
- Cleaned, organized, and maintained cleanrooms, chemical labs, and specialized equipment

Student Employee *Auburn, AL*
Auburn University ECE Department *Oct 2019 – May 2024*

- Aided students and faculty throughout the Electrical and Computer Engineering Department, especially supporting senior design projects
- Organized, cleaned, and maintained electronics and equipment

Process Engineering Co-Op *Auburn, AL*
SiO2 Medical Products *Jan 2022 – Jan 2023*

- Aided process engineers by operating, validating, and debugging manufacturing machinery
- Coordinated with other departments to ensure quality products and thorough documentation

Computer Engineering Co-Op *Huntsville, AL*
Technology Service Corporation *Jan – May 2021*

- Developed Python scripts to streamline product testing
- Tested products to ensure quality performance

Honors Calculus II Tutor *Auburn, AL*
Auburn University *Jan – May 2020*

- Tutored students individually to deepen understanding of Honors Calculus II

Skills

Languages: Python, C, C++, Verilog, Matlab
Tools: Git/GitHub, LTspice, Fusion 360, Haas CNC, Linux, Docker, LaTeX, Microsoft Office
Hardware: Arduino, Raspberry Pi, PCB design, 3D printing
Soft skills: Time management, teamwork, work ethic, dependability, critical thinking, leadership, presentation skills, learning agility, research, and problem solving

Activities & Awards

- Donated my right kidney to a stranger in July 2025
- Donate 10% of my income to the Effective Altruism Animal Welfare Fund and $30 per month to GiveWell's All Grants Fund
- Volunteer at local animal sanctuaries as part of the Veg Society of DC
- Volunteer with the National Kidney Donation Organization (NKDO) to share my experience and encourage kidney donations
- Volunteer with Maryland MESA (Math, Engineering, Science Achievement) to engage students in grades 3–12 with STEM
- Song Director at Mt. Vernon Baptist Church
- Developed a website for my church to improve coordination and accessibility for visitors
- **Awards:**
  - Auburn University Computer Engineering Student of the Year
  - Auburn University 2023-2024 Electrical and Computer Engineering Academic Achievement Award
  - ECE Capstone Showcase Outstanding Project Award (DNAM)