Reece McDorman

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PROFESSIONAL SUMMARY

Currently enrolled in the Electrical Engineering program as a Junior at the University of Kentucky, I am now employed as a Research Assistant (RA) at the NISP lab under Dr. Jihye Bae, where I will contribute to a project that involves the application of a reinforcement learning algorithm to interpret motor neural signals.

EDUCATION

Bachelor of Science, Electrical Engineering (In progress)
Aug 2021-Present; planned graduation May 2025

University of Kentucky, Lexington

- Dean's list
- GPA: 3.836

EXPERIENCE

NISP Lab Research Assistant **Jan 2024 - Present**
University Of Kentucky, 209 RMB

Responsibilities:

- Reading research papers to build the background knowledge for the project and to understand specific data processing strategies and algorithm implementations.
- Implementing neural signal processing techniques and machine learning algorithms (understanding and editing code written by others and writing and editing own code)
- Reporting and presenting work progress regularly.
- Writing research papers

EPIC Lab (work-study) **Sep 2022 – Jan 2024**
University Of Kentucky, 551 FPAT

- Assisted students visiting EPIC with using equipment, especially 3D printers and soldering irons.
- Operating 3D printers both to print giveaways and implement requested designs.
- Opening and closing the lab and carrying out other maintenance/organization tasks as needed.

FedEx (package handler); Richwood, KY **March 2022-Aug 2022**

- Ensured packages were distributed and placed in the correct trucks.
- Unloaded trucks as needed.
- Assisted in the training of new employees in basic procedures.

Extracurricular Organizations

- Dabbled in UK Solar Car/IEEE with minor contributions.

SKILLS

- Programming

    - Since 2016, I have created several small single-player games in JavaScript/HTML/CSS that can be run from a web browser.
    - I was introduced to MATLAB in my Freshman year when I used it to read pH strips for a hydroponics project, and have since become well-versed through other assignments, and familiar with its applicability in control systems and linear algebra as shown in Ogata's *Modern Control Engineering.*
    - Through some self-teaching and CS215 (Intro to Program Design, Abstraction, and Problem-Solving), I have beginner to intermediate skills in C++.
    - Through my CPE287 (Embedded Systems) course and a personal project currently underway, I have introductory experience in assembly and C.
- Research and Study
    - Self-studied *Signals and Systems* (Oppenheim and Willsky), *Mictroelectronic Circuit Design* (Jaeger et al) Calculus III, and Calculus IV before formal classes in college; read unrequired Real Analysis and Linear Algebra, both of which helped me in probability and many other courses. Currently reading Ogata's *Modern Control Engineering.*
- Strong mathematics aptitude and background
    - Have studied real analysis and linear algebra in addition to required coursework and performed well in all other mathematics courses.
- AutoCAD
    - Completed Udemy course (Will provide a certificate on request)
    - Some experience with TinkerCAD design for 3D printer models
- Self-driven and detail-oriented
- Written and oral communication skills

BACKGROUND AND PERSONAL DETAILS

I was raised in Verona, Kentucky, and for all my primary education, homeschooled by my parents and two co-ops in the Greater Cincinnati area. During my primary education and before my interests took a more definite form, I spent part of my time daydreaming about impossibilities from science fiction. I wrote sketches of ideas and recitations of what I did know from school. Later, I made extensive use of Wikipedia to satisfy my curiosities, which were mostly chemical at the time. I was given a soldering iron, Snap-Circuits kit, and laboratory flasks and beakers by my grandfather, who encouraged me. As a preteen, I learned about Khan Academy and used its live online canvas to learn JavaScript as my first programming language, which I used for several small projects as a teenager. Meanwhile, my interests shifted between topics as diverse as writing, business, and gardening, besides all things related to engineering. For a while, I saw my future in full-stack web development, but the generality of physics as applied to something as practical as engineering attracted me. So, in August 2021, at the age of 18, I began my college education at the University of Kentucky for a Bachelor's in EE.

In the fall semester of my junior year, I found the EPIC lab in my search for a source of income. There I had time to study. I assisted students in operating the 3D printers and maintained the lab.

In the fall semester of my junior year, I took Signals and Systems (EE 421G) with Dr. Jihye Bae. Around November, I decided to go into Control Engineering, both for its application of Signals and Systems concepts (EE421G was my favorite class that semester) and interest that I already had. The classes I am taking in the spring semester reflect that choice. During the winter intercession and for my performance in Signals and Systems, Dr. Bae interviewed me and offered me a position as a research assistant in the Neural Interfaces and Signal Processing (NISP) lab, which I accepted. There I have been employed since the 16th of January.

In the past several years I have been an avid reader, plunging into science fiction and fantasy such as H.G. Wells and Tolkien, and textbooks that piqued my interest or seemed relevant to my upcoming studies. I may not have enough time to read as much as I want to, but I am inspired by the potential

that lies in the information that is available and free to everyone. I enjoy walking and the outdoors, and love to travel. While claiming no significant skill or knowledge in the area, I appreciate art and music – particularly classical music. I like to try new and weird food and to understand people of diverse cultural backgrounds. In short, my story up until this point shows that I have a passion for learning, and I plan to use this to be the best engineer and the best version of myself I can be.