James Clayton Crews

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Introduction

My interests/involvements include **research in ML architecture** and the development of **real-time hardware systems**. My graduate thesis is towards **speeding up simulations of power converters using physics-informed neural networks**, in line with my work on the Digital Twins for Power and Energy Systems (NPES) project.

My current goal is to pursue a position that is in need of research/development regarding ML engineering applications.

Skills

PyTorch, C++, MATLAB, **Python**, ASP .NET, SQL, Java, HTML, CSS, ROS, Firebase, React.JS, TypeScript, RedwoodJS(React Framework), Kotlin, Linux/Unix OS

Education

University of South Carolina – MS in Computer Engineering · **Jan 2024 – Present**
- Expected Graduation: **May 2025**
- GPA: 3.625

University of South Carolina – BS in Computer Engineering · **Aug 2021 – Dec 2023**
- GPA: 3.846

University of Alabama in Huntsville – BS in Computer Engineering · **Aug 2020 – May 2021**
- GPA: 3.781, Transferred to UofSC

Experience

Digital Twin for Navy Power and Energy Systems (NPES), University of South Carolina – Columbia, SC · Aug 2024 - Present / Apr 2024 - May 2024
- Currently working on designing a real-time simulation of a DC-DC power converter using neural networks.

RISC ARLIS Intern, University of Maryland – College Park, MD [Remote] · May 2024 - Aug 2024
- Developed an auto-encoder architecture for feature abstraction and size reduction towards a more accurate classification model.

LEAP-HI, University of South Carolina – Columbia, SC · Jan 2024 - May 2024
- Developed wireless sensor packages with conductivity probes for distributed real-time soil saturation assessment in levees. *NSF Award Abstract # 2152896*

Wordification Project, University of South Carolina – Columbia, SC · May 2023 - Present
- Developing a "gamified" approach to teaching K-2 children how to spell based on phonics rather than memorization.

Software Engineering Intern, Lexington Medical Center – Lexington, SC · Aug 2019 - Jan 2020
- Developed an application to query an outdated medical record database.

Grants & Awards

South Carolina Space Grant Consortium – STEM Outreach Award: · *May 2024*

President's List · *Fall 2022 - Spring 2023*

Dean's List · *Fall 2020 - Spring 2023*