Eli Richmond

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Work

Summer Internship @ East Carolina University (Sponsored by NSF) 05/2023 – 07/2023

Software & Data Analytics Research Experience for Undergrads

- Proposed, implemented, and wrote the paper for my innovative transformer AI model, demonstrating rapid comprehension and development of complex, cutting-edge technologies.
- Pioneered the novel approach using PyTorch to enhance AI tool utilization, specifically LLM calculator usage.
- Developed proficiency in deep learning optimization techniques and delivered weekly progress presentations, showcasing strong problem-solving and time management skills.
- Navigated challenging project constraints, balancing implementation with tight deadlines in a high-pressure research environment.

Undergrad Software Developer @ Arkansas State University 12/2021 – 04/2023

Full-Stack Web Development & Artificial Intelligence

- Technical lead for an 8-person interdisciplinary team developing AI to optimize font readability for dyslexic readers.
- Architected and deployed a Django-PostgreSQL web application for dyslexic reader data collection, emphasizing best practices in software engineering including abstraction, decoupling, refactoring, and unit testing.
- Successfully integrated a specialized CNN AI model with a larger GAN (Attr2font), demonstrating my ability to quickly comprehend and adapt complex codebases.
- Bridged communication gaps between technical and non-technical team members, for smooth project progression.

Vehicle Detailing Business 10/2019 – 09/2021

Self-Employed Entrepreneur

- Built a loyal customer base over two years, exhibiting strong client relationship management and service quality.
- Developed crucial soft skills in sales, customer service, business operations, and resilience.

Education and Skills

B.S. in Computer Science @ Arkansas State University 08/2021 – 06/2024

Honors :: GPA 3.81

Programming Languages: Python, C++, HTML/CSS/JS, PostgreSQL
Data Science: PyTorch, NumPy, Hugging Face, SciPy, Scikit-learn, Pandas, Tensorflow
DevOps: Linux (command line), Conda, Python virtualenv, Tmux, Git, Github, Heroku
Frameworks: Django, Flask

Software Projects

The following are key projects I've developed over the years, each requiring at least a month of dedicated effort. While concisely described, these projects demonstrate my proficiency as a software engineer and my ability to create impactful, real-world applications.

Delta Timepieces: Engineered and launched a robust and thoughtfully designed e-commerce website for a luxury watch brand that did over $1,000,000 in revenue during 2024.

Banner Note: Created an innovative Twitter integration tool that garnered 10,000 impressions and 100 visitors on launch day with consistent and ongoing usage, allowing users to interactively leave notes on profile banners.

CS50x - parody: Crafted a parody of Harvard's CS50x course website as a final project, which gained significant traction on Reddit's r/CS50x with 3,500 views, 18 upvotes, and recognition from the course's lead instructor.

Hacker Social: Developed a niche social media platform that integrates elements of personal websites, blogs, and RSS feeds, catering to tech enthusiasts and championing the principles of the IndieWeb movement.

Avant-Gardes V1: Rick Rolled: Designed and implemented a blockchain-based NFT project interfacing directly with Ethereum, showcasing proficiency in cutting-edge decentralized technologies.

See 3 letters of reference below

September 5, 2023

Dear Madam or Sir:

It is my pleasure to write you in support of Eli Richmond's application. I have known Eli since May 15, 2023, when he joined the Research Experiences for Undergraduates (REU) in Software and Data Analytics program at ECU. I believe Eli is an excellent candidate because he has great analytical and technical skills, is passionate about deep learning and natural language processing, is very professional, and has great communication skills.

During the REU, participants had to present their progress and provide feedback to their colleagues once a week, meet regularly with their faculty mentors to present updates on their projects and discuss plans for next steps, and participate in a weekly journal club. Eli was frequently praised by faculty and peers for his great presentations of his progress, and usually asked his colleagues insightful questions about their projects. During our regular meetings he always came prepared, on time, and delivered what he proposed to do in the previous meeting. He worked well with very little supervision – all I had to do is provide a development environment for his project, which focused on tools integration into transformer through source code. He connected to the remote Linux server, installed all the prerequisites, and ran the experiments. For the journal club he proposed the most recent, impactful articles, and led their discussion, during which he showed good understanding of the methods used and experimental design.

On a personal level, I very much enjoyed the few informal conversations I had with him, during which we discussed various topics. These inspired me to read some of his favorite books.

In short, I would highly recommend Eli. If I can be of any further assistance, or provide you with any additional information, please do not hesitate to contact me.

Yours sincerely,

Nic Herndon, PhD
Assistant Professor and Graduate Program Director
Department of Computer Science
East Carolina University
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To Whom It May Concern:

It is my honor to recommend Mr. Eli Richmond. He is an outstanding undergraduate student pursuing a B.S. in Computer Science at Arkansas State University. Eli has been a student in many of my courses, and I have been extraordinarily impressed with his academic progress, both inside and outside of the classroom. His motivation and academic curiosity are qualities that set him apart from his peers.

In addition to his coursework, Eli has been the lead undergraduate research assistant on a unique, interdisciplinary project titled "Dyslexia and AI: The Use of Artificial Intelligence to Identify and Create Fonts to Improve the Reading Ability of Individuals with Dyslexia." Along with the Department of Computer Science, this project involves faculty from the Department of Teacher Education, Department of Art+Design, Department of Psychology, and Department of Communication Disorders. His work on this project showcases his ability to communicate and interact with individuals beyond the area of computer science.

Eli took the lead on multiple implementation details related to the aforementioned project. These include coordinating the design and implementation of the user interface, implementation of AI/ML models for training and testing, and actively participating in a summer camp for K-8 students to collect real-world data. He is one of the recognized authors of the manuscript published in the 2023 Society for Information Technology & Teacher Education (SITE) conference proceedings and was a co-presenter of this work during the 34th International SITE Conference on March 14, 2023.

In closing, I would like to reiterate my support for Mr. Eli Richmond. Please feel free to contact me if you have further questions.

Sincerely,

Jake A. Qualls, Ph.D.
Assistant Professor of Bioinformatics
Department of Computer Science
Arkansas State University
jqualls@astate.edu

ARKANSAS STATE UNIVERSITY

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August 21, 2023

To Whom it May Concern:

I've had the pleasure of working with Mr. Eli Richmond on a research project "Dyslexia and AI: The Use of Artificial Intelligence to Identify and Create Font to Improve Reading Ability of Individuals with Dyslexia", an ongoing collaborative research project on the effects of font on people with dyslexia. This research has been presented at the NSSA 2022 conference in San Diego, California, and the SITE 2023 conference in New Orleans in March. The latter conference will also publish a proceedings journal with a paper version of our presentation included.

Mr. Richmond has been invaluable in this project. He was responsible for developing a web application for testing how the performance of dyslexic students changed when they were exposed to different fonts. Mr. Richmond performed well on this task, successfully meeting expectations, accommodating revisions, and conducting himself in a professional manner. Additionally, he was our primary presenter at the SITE 2023 conference.

I am pleased to see the Mr. Richmond is continuing to develop himself in the field of Computer Science. He has demonstrated himself to be a skilled programmer, able to solve problems, and capable of working with others. I believe he would make a valuable employee in whatever field he applies himself.

Sincerely,

Jonathan Stubblefield
Assistant Professor