Dwain Anderson

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Education

Cornell University, College of Arts & Sciences | Ithaca, NY August 2023 – May 2027 (Expected)
Bachelor of Arts, Computer Science and Statistical Science (Double Major), Minor in Mathematics
Related Courses: Database Systems, Object - Oriented Programming & Data Structures, Functional Programming, Backend Development, Web Programming, iOS Development, Machine Learning, Statistics, Probability, Linear Algebra

Technical Skills

Programming Languages: Java (proficient), Python (proficient), HTML/CSS (proficient), SQL (proficient), JavaScript/TypeScript (intermediate), OCaml (intermediate), PHP (intermediate), Swift (beginner), C/C++ (beginner)
Frameworks & Tools: Git, Docker, Postman, Flask, Node.js, Express.js, Firebase, React.js, Next.js, jQuery, Pandas

Relevant Experience

Cornell Digital Tech & Innovation August 2024 - Present
Carriage, Software Developer | TypeScript, React, Node, Express, Firebase

- Contributed to an app for Cornell CULift and RedRunner, improving dispatcher workflows for scheduling, editing, and managing ridesharing services for individuals with disabilities.
- Engineered and deployed full stack solutions, addressing accessibility concerns through user-friendly interfaces with TypeScript and React, and building reliable, scalable backend services using Node.js, Express, and Firebase.
- Collaborated with a team of over a dozen undergraduate software developers, participating in weekly stand-ups and leveraging agile methodologies to drive project milestones and enhance application performance.

Project Experience

Cornell CourseSphere | *TypeScript, Python, React, Flask, SQL* Summer 2024 | GitHub Repository

- Engineered a TypeScript and React frontend for a retrieval augmented generation web-app, implementing a k-batch dynamic save chat feature that **reduced network calls by 10%.**
- Utilized multi-threading and parallelization to read **19,000 rows** in an **SQL database and transfer it to a csv file within 0.01 seconds.**
- Integrated Reddit's API to collect course-related data points, populating a SQL database to be used for LLM prompts, resulting in an improvement in RAG recommender accuracy.
- Optimized backend architecture by structuring RESTful API endpoints and standardizing HTTP error codes, resulting in streamlined user authentication with the Firebase database.
- Collaborated with three other undergraduate students, resolving scheduling conflicts as necessary.

Vector Space | *Python, SQL, Machine Learning, Tokenization* Summer 2024 | GitHub Repository

- Developed a web-crawler capable of **visiting 60,000 webpages,** storing the extracted content in a SQL database.
- Optimized SQL database to efficiently store and index **6,000,000 bytes of English-translated text-content data** in a SQL database, enabling rapid retrieval for natural language processing tasks.
- Engineered thread-safe BFS, K-NN, and K-means clustering algorithms for webpage network graph analysis to **process 60,000 webpages 1.6 times faster (Amdahl's Law) than single-threaded approaches.**
- Utilized tokenization, Word2VeC SkipGram, and PCA to compute **25-dimensional vector representations** of web-scraped content.

Student Organizations

ColorStack | Member August 2024 - Present

- Attended networking events with companies geared at increasing the representation of URMC in tech.
- Supported peers by providing academic coding help.