Dylan Embry

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EDUCATION

Southern Methodist University, Dallas, Tx   **BA in Computer Science | December 2024**

Relevant Coursework: Data Structures & Algorithms, Linear Algebra, Discrete Computational Structures, Calculus I & II, Graphical User Interfaces, Data Science, Software Project Management, Operating Systems, Machine Learning, Mobile Apps, AI, Software Security, Algorithm Engineering, Data Mining

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WORK EXPERIENCE

Full Stack Software Development Intern, Tyler, TX   **Summer 2024**
zdSCADA, LP

- Led the transition of over 10% of the oil well control and data acquisition platform from ASP.NET to Vue, improving the application's performance and user experience
- Implemented over 30 customer and support requested features using technologies such as Vue, WinForms, C#, Lua, T-SQL, and .NET Core with all changes deployed to production
- Enhanced team productivity by participating in a modified Scrum process, writing and testing UI tests using Playwright, and aligning on goals in weekly team meetings

Software Engineering Intern, Dallas, TX   **Summer 2023**
TickerTrends Inc.

- Developed quantitative sentiment analysis software to scrape and analyze financial social media posts using Express, Flask, and Next.js
- Leveraged Knex.js and TypeORM to manage and optimize the schema and entities of a PostgreSQL database
- Utilized React and Tailwind CSS to develop a dynamic front-end for data visualization, including interactive charts, real-time updates, and responsive dashboards using Chart.js

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PROJECTS

Connect4 AI Agent   **Spring 2024**

- Developed AI agents in Python to play Connect 4, implementing random agents, minimax search with alpha-beta pruning, and heuristic alpha-beta tree search
- Finished 3rd place out of 62 participants in a class tournament to test agents against peers' implementations by using a heuristic-based Monte Carlo Search

Computer Vision and Heartbeat Detection App   **Fall 2023**

- Developed an iOS app in Objective-C, Swift, and C++ leveraging OpenCV to display real-time camera images, highlighting faces, eyes, and mouths, and detecting head angles, blinks, and smiles
- Created a module using the phone's flashlight and video to sense heart rate by applying Fast Fourier Transform to pixel data shifts from blood pulsation, achieving a coarse estimate within 3 BPM

Doctor/Patient Management Platform   **Spring 2023**

- Built a dynamic frontend with React and TypeScript, incorporating over 15 pages and components, and employing Tailwind CSS, Material UI, and Headless UI for a responsive and modern UI/UX
- Designed and implemented a custom API using Node.js, Express, and TypeScript, incorporating Prisma ORM for seamless database operations on PostgreSQL
- Optimized for performance and scalability by deploying on Vercel, leveraging Vite for build optimization and CI/CD processes

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ACTIVITIES

Theta Tau Philanthropy Chair, *Professional Engineering Fraternity*

- Connected with alumni and peers through weekly chapter meetings, events, and alumni speakers
- Organized philanthropy events including setting up cleanup crews for White Rock Lake

TECHNICAL SKILLS

Java, C, C++, JavaScript, HTML, CSS, React, TypeScript, Python, Objective-C, Swift, Node, Git, Docker, Flask, Express, Prisma, TypeORM, Tailwind CSS, Bootstrap, PostgreSQL, AWS, Azure DevOps, Vue.js, C#, ASP.NET, WinForms, SQL, TensorFlow, Transact-SQL, Jupyter, Playwright, React Native, OpenCV, Agile, Microsoft SQL Server, Lua, .NET Core, Vite, Next.js, TCP/IP, PyTorch, TensorFlow