Zachary Brown

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Work Experience

Software Engineer I Herzog May 2024–Present

Ballast & Material Team St Joseph, MO, USA

- Designed and implemented a GPS-based tie unloading software, automating critical workflows and boosting operational efficiency, improving accuracy and user experience.
- Provided leadership to the development team, navigating complex challenges, ensuring on-time delivery, and fostering a collaborative environment despite uncertainties.
- Actively mentored developers, offering technical guidance and expertise, resulting in faster resolution of issues and improved team productivity.
- Instituted and enforced rigorous code quality standards, promoting best practices in modularity, scalability, and maintainability, which reduced technical debt and increased long-term project flexibility.

Full-Stack Engineer Intern Inseer Inc. 2022–2023

Research & Development Team Columbia, MO, USA

- Designed and built a web application to evaluate and compare Pose Estimation models, integrating a library of videos and rendering model outputs as wireframe skeletons overlaid on the footage.
- Streamlined model validation and performance assessment, facilitating precise visual comparison and improving model selection processes.
- Ensured compliance with best practices in web application security, including data encryption, secure API endpoints, and user authentication protocols.

Education and Certifications

• B.Sc. Computer Science, University of Missouri - Magna Cum Laude - 3.7 GPA 2020–2024

Technologies and Languages

Languages: C/C++, C#, TypeScript, Python

• Technologies: MySQL, AWS, Git, Angular, .NET, GitHub Actions

• Other: Data structures and algorithms, Embedded Systems, Design Principles

Projects

- FitPal A computer vision-powered platform for at-home physical therapy, enabling physical therapists to remotely monitor and interact with patients. FitPal also streamlines home exercise program management, reducing common pain points for both therapists and patients.
- **TapRx** An iOS application designed to improve medication adherence by simplifying dosage scheduling, tracking drug intake, and sending push notifications for missed doses. Emphasized simplicity and user-friendly design to enhance the user experience.