Zachary Tobias DeRuiter

Software Engineer | Robotics Engineer

(402) 651-2523 • tobi@tobi-deruiter.info • tobi-deruiter.info • github.com/tobi-deruiter • linkedin.com/in/tobi-deruiter

Education

Purdue University — West Lafayette, IN
BS, Computer Science: Software Engineering | GPA: **3.5** / 4.0 — 07/2020 - 12/2024

Purdue University — West Lafayette, IN
BS, Robotics Engineering Technology | GPA: **3.5** / 4.0 — 07/2020 - 12/2024

University of New South Wales — Sydney, Australia
Semester Abroad — 01/2023 - 05/2023

Experience

Self Employed — Remote, USA
Full Stack Developer — 02/2025 - Present

- Develop frontend (React.js), backend (Node.js) and admin page (React.js) to upload, update, delete, and display business portfolios, products, and events
- Manage storage of data and assets with effective utilization of a NoSQL database (MongoDB) and media management (Cloudinary)
- Implement website customization, newsletter, service request forms, automatic emails

Coding Mind Academy — West Lafayette, IN
Computer Science Instructor — 07/2024 - Present

- Teach courses in C++ and Python; material including data structures, algorithms, OO principles and design
- Instruct 2-5 classes weekly covering beginner to advanced levels
- Prepare curriculum for 1-3 middle to high school students both online and in person

The Rush Market — Omaha, NE
Computer Science Intern — 05/2022 - 08/2022

- Prototyped a web app with Azure speech-to-text for improving inspection process speed by up to 25% per item
- Created a back-end system using Twilio to alert employees of customer pick-ups via text messages
- Researched and contributed to the initial stages of training computer vision for automating cycle counting and auditing

Projects

Portfolio Website — tobi-deruiter.info

- Implemented Node.js and Express.js server to deploy a full stack website using HTML, CSS, and JavaScript
- Continuous development and delivery of updated versions every 4 months

Boiler Robotics Club (BRC) — purduebrc.org

- Designed, built, and programmed a robotic arm in a team of 5 to 6 students (for retrieval and servicing in University Rover Challenge competition)
- Programmed in Python on a Linux system; utilized ROS (Robot Operating System) for inverse kinematics; SolidWorks used for design

Fluid Power Club (FPC) — boilerlink.purdue.edu/organization/fluidpower

- Designed and implemented an electronics system in a team of 4 to monitor and control the FPC bike
- Programmed Arduino OPTA PLC in C++ to gather data from 4 sensors and display on an HMI, adhering to NFPA standards and requirements

Skills

Languages: C/C++, C#, Python, Java, JavaScript, TypeScript, HTML, CSS, React, Golang, Kotlin, Bash

Frameworks and Libraries: ROS, React.js, Node.js, Express.js, TensorFlow

Tools: Linux, Azure, Visual Studio, Firebase, MongoDB, MySQL, CAD (Autodesk, SolidWorks), Unity, Twilio, 3D Printing, Arduino, Raspberry Pi

Other: Data Structures, Algorithms, RTOS, Agile Development, Collaboration, Self Motivated

Coursework:

Operating Systems, Software Testing, Intro to the Analysis of Algorithms, Software Engineering I, Systems Programming, Data Mining & Machine Learning, Computer Architecture, Programming in C, Continuous System Analysis and Design, Intro to Robot Kinematics