Dylan Zemlin

dylan.zemlin@gmail.com | linkedin.com/in/dylanzemlin | github.com/dylanzemlin

Education

University of Oklahoma — Norman, OK
B.S. in Computer Science — *Expected Spring 2025*

University of Oklahoma — Norman, OK
M.S. in Computer Science — *Expected Spring 2026*

Skills

Languages: Java, Python, C/C++, SQL (Postgres), JavaScript, HTML/CSS
Frameworks: ROS, OpenCV, React, NextJS, AdonisJS

Work Experience

Student Programmer — April 2022 - Present
K20 Center — *Norman, OK*

- Developed a full stack mobile application using React Native that is designed to help parents transition their kids into college.
- Led the development of Operation Elect, a fully featured educational video game made in Unity that teaches students about the United States election process.
- Created a internal timing tool using NextJS that decreased the workload of video editors significantly.

Design Teams

IGVC Team Captain — August 2023 - May 2024
Sooner Competitive Robotics — ***1st Place***

- Led a team of software, electrical, and mechanical engineers towards the completion of a fully autonomous vehicle that secured first place at the Intelligent Ground Vehicle Competition.
- Created a dual camera processing pipeline that transforms camera feed into movement commands using OpenCV and custom algorithms.

IGVC Software Lead — August 2022 - May 2023
Sooner Competitive Robotics — ***1st Place***

- Wrote the software for a fully autonomous vehicle that secured first place at IGVC using ROS, Python, and C++.
- Optimized existing path planning pipelines using C++, increasing their available throughput by nearly 170% (190ms per frame to 110ms).
- Created a highly configurable user interface using HTML/Javascript that connects with ROS which allows for on the fly viewing and editing of PID parameters, HSV thresholds, etc.
- Created a competition simulator in Unity for SCR robot that communicates with ROS using TCP.
    - Uses BSON to efficiently send images and other data.
    - Dynamic mesh generation for lanes using Bezier curves.

Projects

Rosie | *Python, OpenAI, TCP* — Hacklahoma 2024 - 1st Place

- Worked with a team of engineers to create a AI assistant in less than 24 hours.
- Created a TCP server/client architecture to offload audio processing to multiple devices in separate locations using Python.
- Integrated directly with OpenAI libraries to translate audio to text, text to audio, and generate responses.