Cole M. Puls

US Citizen - colepuls@me.com - (573)-979-4058 - LinkedIn: linkedin.com/in/colepuls - GitHub: github.com/colepuls
Portfolio Site: https://portfolio-site-nine-lake.vercel.app/

EDUCATION

University of Missouri - Columbia, MO
***B.S in Computer Science**, Expected May 2027*
Concentrations: Robotics Engineering, Embedded Software Development, Machine Learning
Relevant Coursework: Artificial Intelligence, Software Security, Software Engineering

EXPERIENCE

Undergraduate Research Assistant - *Autonomous Systems Lab*

Robotics & Autonomy | Aug 2025 - Present

- Working with **Boston Dynamics Spot quadruped** on autonomy and perception research.
- Developing and experimenting with **machine learning algorithms** using **tensorflow** for navigation, sensing, and decision-making.
- Contributing to SDK/ROS2 integration for advanced robot mobility.

Undergraduate Research Assistant - *AI/ML and Mobile Sensing Research*

Kotlin Multiplatform, SwiftUI, AI/ML Research | May 2025 - Aug 2025

- Helped build **iOS mobile sensing app** for collecting **passive sensor data** (accelerometer, gyroscope, behavior patterns).
- Designed **real-time data pipeline** for training **AI models.**
- Implemented **secure auth** and **background uploads** for **longitudinal ML studies.**

PROJECTS

Arduino Autonomous Robot - *Personal Project*

Arduino Uno R3, FS90R Motors, HC-SR04 Sensors, Fusion 360, 3D Printing| Aug 2025 - Sep 2025

- Designed and 3D printed full chassis for a mobile robot.
- Programmed embedded system in C++ to **autonomously roam** and **avoid obstacles** using ultrasonic sensing.
- Demonstrated full end-to-end robotics build: hardware design, electronics, and control software.

Foreman Logging App - *Langford Mechanical & Sheet Metal, INC.*

React Native, Expo, Firebase, Node.js| May 2025 - Present

- Developed **cross-platform mobile app** (**App Store & Play Store**) for foremen to **log job activities**, **hours**, and **photos**
- Used **Firebase Auth + Firestore** for **real-time data sync.**
- Built **REST API** (Express.js, Multer, Nodemailer) with **secure image upload** and **automated email delivery.**

ACTIVITIES AND LEADERSHIP

Underwater Robotics Team - *Mizzou SURF*

Embedded Systems | Aug 2025 - Present

- Developing **embedded control software** for underwater robots.
- Programming microcontrollers in C/C++ for thruster control, real-time sensing, and communication.

Diabetes Risk Classifier - *Mizzou Hackathon 2025*

Python, PyTorch, CLI App | Feb 2025

- Built neural network with dropout for binary classification of clinical diabetes risk.
- **Preprocessed patient data (normalization, imputation) boosting accuracy by 18%.**
- Designed CLI interface with interpretability features; led 3-person team delivering in 72 hours.

TECHNICAL SKILLS

Languages: Python, C/C++, JavaScript
Frameworks/Libraries: Pytorch, TensorFlow, React Native, Express
Tools/Platforms: Git, Arduino, Fusion 360, Firebase, Vercel, Expo, Render