Aidan Reilly

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EXPERIENCE

Robotics Software Engineer Intern — 05/2024 - present
Komatsu Mining — *Warrendale, PA*

- Developed autonomous vehicles for underground mining in complex, GPS-denied environments
- Focused on perception, performing sensor fusion between Lidar and Radar pointclouds; researched and developed motion control planning using Unreal Engine 5 for robust simulation testing

Robotics Software Engineer Intern — 05/2023 - 08/2023
Komatsu Mining — *Warrendale, PA*

- Led the development of an autonomous mining vehicle from simulation to production
- Automation increased efficiency by 25%, driving $1.1 billion in annual revenue
- Increased performance by 8x using GPU parallelization, improving simulations and pointcloud processing
- Managed 10,000+ lines of code with Docker and Azure DevOps in a Linux environment
- Utilized the latest technologies of C++, Python, Lidar, Radar, Camera, ROS2, SLAM, Nav2, CUDA, KISS-ICP

Undergraduate Teaching Assistant - Discrete Mathematics — 08/2022 - 05/2023
University of Pittsburgh — *Pittsburgh, PA*

- Supported students through weekly recitation, tutoring and office hours; managed grading and provided tutoring

PROJECTS

ANA - Autonomous Navigation Assembly | github.com/Razzi86/ana_bot — 08/2023 - present

- Created an autonomous robot car from scratch, researching optimal methods of perception, navigation, and control
- Utilized Jetson Orin, ROS2, SLAM, Nav2, Lidar, Depth Camera, and encoder motors

MIT-PITT-RW - Perception Team | driverless.mit.edu/mitpittrw — 01/2024 - present

- Contributed to an autonomous racecar by developing ML models for real-time vehicle and obstacle recognition
- Modified docker to work on ARM64 computer architecture, enabling development on the NVIDIA Jetson Orin

Box Game | github.com/Razzi86/Box_Game — 08/2021 - 01/2022

- Engineered a two-player handheld game using Raspberry Pi and electrical engineering

AWARDS

Second Place - SteelHacks Hackathon | github.com/DW-Han/fashion-segmentation-rep — 2023

- Led the development of an AI-based Chrome extension for live clothing segmentation, achieving %86 accuracy
- Utilized Pytorch, TensorFow for model, JavaScript, CSS, HTML for front and back end

EDUCATION

University of Pittsburgh — 2024
Honors - B.S. in Computer Science, Minor in Mathematics, GPA: 3.6

Delaware County Community College — 2021
Honors - A.S. in Computer Science, GPA: 3.9

Coursework: Deep Learning, Computer Vision, Data Structures & Algorithms, Operating Systems, AI, C++

SKILLS

Languages: C++, Python, MATLAB, Java, URDF, Blueprint, Javascript, CSS, HTML, C#, C,

Tools: Docker, Azure Devops, Git/GitHub, NVIDIA Jetson, Unreal Engine 5, Gazebo, ROS2

Technologies: PyTorch, TensorFlow, OpenCV, CUDA, Ubuntu, PyQt5, SLAM, Nav2, PCL, ICP, YOLO, CAD