Aidan Reilly

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Experience

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

- Developing autonomous vehicles for underground mining using ROS2 and Unreal Engine 5

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

- Led the development of a fully autonomous mining vehicle from simulation to physical production, increasing operational efficiency by over 25% and driving $1.1 billion in annual revenue
- Increased performance by 20x using CUDA, improving the quality of 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, 3D Lidar, Radar, IMU, ROS2, SLAM, NAV2, ICP
- Presented progress to Vice Presidents, resulting in increased funding and project expansions

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

- Developed an autonomous robot car from scratch using C++, ROS2, SLAM, NAV2, Lidar, Depth, Arduino, Jetson
- Researched modern methods to maximize performance of perception, navigation, localization, and control

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
- Working towards research paper for Carnegie Melon University Robotics Institute

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