Aidan Reilly

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Experience

Robotics Software Engineer Intern 05/2024 - current
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*

- Developed autonomous mining vehicles, increasing efficiency by 25% and driving $1.1 billion in annual revenue
- Managed development with **Docker** and **Azure DevOps** in a **Linux** environment using **Jetson Orin AGX**
- Increased performance by 20x using **CUDA**, improving the quality of simulations and pointcloud processing
- 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 expanded projects

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

Education

University of Pittsburgh 08/2021 - 05/2024
B.S. in Computer Science, Minor in Mathematics, GPA: 3.6

Delaware County Community College 08/2019 - 05/2021
A.S. in Computer Science, GPA: 3.9

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

Projects

ANA - Autonomous Navigation Assembly | https://github.com/Razzi86/ana_bot 08/2023 - current

- Engineered an autonomous robot car using **C++, ROS2, SLAM, NAV2, Lidar, Depth, Arduino, Jetson**
- Performs sensor fusion to achieve robust localization, control, and path planning

MIT-PITT-RW Perception Team | https://driverless.mit.edu/mitpittrw 01/2024 - current

- 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

Clothing Segmentation Extension | https://github.com/DW-Han/fashion-segmentation-repo 02/2022 - 04/2023

- 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

Box Game | https://github.com/Razzi86/Box_Game 05/2019 - 07/2019

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

Skills

Languages: C/C++, Python, MATLAB, Java, JavaScript, URDF, Blueprint

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