Aidan Reilly

610-608-8166 | arr160@pitt.edu | linkedin.com/in/aidan-r-reilly | github.com/Razzi86 | portfolio

Experience

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

- Developed cutting-edge software for driverless underground mining vehicles in complex GPS-denied environments.
- Implemented LiDAR SLAM with parallel programming on embedded devices, reducing computation by 60%.
- Integrated autonomous navigation and path planning, leading to a 30% increase in operational efficiency.
- Gained experience with C++17, Python, ROS2, NVIDIA Jetson, Linux, SLAM, Nav2, ICP, Unreal Engine 5.

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

- Developed the core autonomy software stack for underground mining in complex and GPS-denied environments
- Designed and optimized perception algorithms to filter, segment, and align pointclouds; used icp to estimate material flow velocity (97% accuracy) and concave hull for volume (81% accuracy).
- Wrote a program that procedurally generates simulated environments, streamlining testing and development

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

- Supported students through recitation, tutoring, and office hours; Managed grading for homework and quizzes.

Projects — Portfolio

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

- Designed a compact robot car that uses Lidar SLAM and vSLAM for autonomous navigation in indoor spaces, utilizing laser ranging and computer vision for robust obstacle detection and avoidance.
- Prototyped various 3D-printed chassis using CAD, efficiently placing electronic components.
- Utilizes C++ and Python; platformed on NVIDIA Jetson, Arduino and Linux; uses lidar, depth, and camera.

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

- Developing software for an autonomous racecar that competes internationally at speeds of over 150mph.
- Trained machine learning models for real-time obstacle recognition and avoidance using lidar and HD camera.

Professional Tournament Poker 04/2019 - present

- Coached by super pros Chance Kornuth (Former #1 worldwide), James Romero (World Poker Tour Champion)
- Extensive mastery of game theory, statistics, and probability; Developed UBerkely poker course; Private coach

Clothing Segmentation Extension | github.com/DW-Han/fashion-segmentation-rep 08/2023 - 09/2023

- Developed a Chrome extension for live clothing segmentation and classification, achieving 86% accuracy
- Placed 2nd overall in the 2023 SteelHacks hackathon, winning the "User Experience" category

Education - *Combined Cumulative GPA: 3.72*

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

Skills

Programming:	C++17, Python, ROS2, CUDA, MATLAB, Bash, Blueprint
Libraries:	PCL, OpenCV, 2D/3D SLAM, Nav2, ICP, PyTorch, TensorFlow, Rtabmap, Cartographer
Development:	Git, Docker, Visual Studio, Azure DevOps, Blender, Gazebo, Rviz2, Unreal Engine 5
Other:	Linux, NVIDIA Jetson, Arduino, 2D/3D lidar, radar, imu, camera, depth