Induwara Kandapahala

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PROFESSIONAL SUMMARY

Aspiring Computer Engineering student with a focus on software development for robotics and autonomous systems. Equipped with hands-on experience in ROS, Python, and C++, I have led and contributed to competitive robotics projects, including key upgrades for autonomous functionalities in preparation for the University Rover Challenge.

EXPERIENCE

Software Lead, Space Exploration Alberta Robotics **Aug 2023 – Current**

- Onboarding and **mentoring** new team members, overseeing code quality, and project timelines to develop the Rovers software system, for this year's competition.
- Investigating various **path-finding algorithms** for off-road navigation, by consulting experts in the field and through the analysis of performance data.
- Improving the rover systems from last year, by recycling code and building new modular components keeping maintainability in mind.

Software Member, Space Exploration Alberta Robotics **April 2023 – Aug 2023**

- Developed the rover's control system using **ROS** and **MoveIt**, implementing modular, object-oriented code to ensure scalability and maintainability.
- Collaborated alongside mechanical and electrical sub-teams to engineer the programming logic for the rover's mobility and arm functionalities, resulting in precise movement.
- Implemented a reliable camera system to transmit feed over Wi-Fi, using **G-Streamer** that resulted in continuous feed during rover operation.

PROJECTS

Role, Pathfinding Visualization (https://github.com/Indy1103/pathfinding_visualization) **May 2023 – Jun 2023**

- Designed a pathfinding visualization tool using **Python** and **Tkinter**, allowing for an interactive display of graph traversal algorithms
- Implemented Depth-First Search (DFS) and Breadth-First Search (BFS) algorithms, enabling users to visualize and compare different pathfinding techniques in real time.

Role, Personal Website (Indy1103.github.io) **Aug 2023 – Current**

- Utilized **Bootstrap** to develop a responsive website, optimizing for a wide range of devices to ensure accessibility and a consistent user experience.
- Designed the **UI/UX** to emphasize intuitiveness and ease of navigation, resulting in a platform that effectively showcases my technical skills and projects.

EDUCATION

BSc Computer Engineering Software, University of Alberta **May 2026**

- Entrance Scholarship

Neural Network and Deep Learning, DeepLearning.AI **Aug 2023**

- Certification

CS50, Harvard **Aug 2022**

- Certification

SKILLS

Languages: Python (Fluent) | C++ (Fluent) | Java (Fluent) | HTML(Familiar) | CSS(Familiar)
Technologies: ROS | OpenCV | Gstreamer