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 (University of Alberta) **Aug 2023 – Current**

- Onboarding and **mentoring** new team members, overseeing code quality, and setting up a collaborative **git** environment 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.
- Integrating **defensive programming** techniques such as exception handling, to make the software package robust during unforeseen circumstances.

Software Member, Space Exploration Alberta Robotics (University of Alberta) **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
- **Co-op Work Term 2024** | 8 months | January - September

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

- Certification

CS50, Harvard (Online) **Aug 2022**

- Certification

SKILLS

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