MARSHALL P. JOHNSON

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EDUCATION

Northwestern University   Evanston, IL
Master of Science in Robotics   Sept 2021 - Aug 2022

Massachusetts Institute of Technology (MIT)   Cambridge, MA
Bachelor of Science in Mechanical Engineering   Sept 2013 - June 2017

PROJECTS

Classification of User-specific Symbols for Intuitive Control Using CNN   Evanston, IL
Independent Project (Northwestern) - Skills: Python, Keras, ROS, Gazebo   Jun 2022 - August 2022

- Built curriculum of maze simulations using ROS and Gazebo to gather analog data from users for machine learning pipeline
- Classified user inputs into custom symbols using 1D CNN (Keras) to generate an intuitive, user-specific set of controls that can be used to navigate in the real world

Feature-Based Extended Kalman Filter SLAM from Scratch   Evanston, IL
Independent Project (Northwestern) - Skills: C++, ROS, SLAM, Rviz   Jan 2022 - Mar 2022

- Performed circular regression and classification to detect landmarks from LiDAR data
- Implemented EKF-SLAM through self-developed ROS C++ package
- Built simulated environment in RViz from scratch, including robot control (collision detection, differential drive kinematics, and odometry)

WORK EXPERIENCE

Crusoe Energy Systems   Denver, CO (Remote)
Data Scientist   Jun 2021 - Sept 2021

- Built custom Grafana dashboards to visualize real-time operational and financial metrics, facilitating decision-making and reporting
- Analyzed environmental data to prioritize expansion targets for business development

Moving Health (Formerly: The Okoa Project)   Boston, MA (Remote)
Data Scientist   Mar 2020 - Jun 2021

- Leveraged ambulance data to generate real-time visualizations using Python and Tableau
- Built custom Flask dashboards to better inform stakeholders and direct future innovation
- Created in-house data pipeline for GPS data obtained from Okoa ambulances in Africa

Booz Allen Hamilton   Washington, D.C.
Senior Consultant - Data Science   Aug 2017 - Jun 2019

- Provided modeling expertise (Python) and data strategy for client to enhance technical solutions and processes, resulting in reduced error and improved data analysis
- Developed Python software to run agent-based simulations for a variety of applications, resulting in a new modeling capability for Booz Allen team

LEADERSHIP

Product Engineering Processes   Cambridge, MA
System Integrator   Sept 2016 - Dec 2016

- Led a team of seventeen MIT students through early phases of product development, culminating in the construction of a high quality functioning alpha prototype
- Presented working alpha prototype to a live audience of ~1300 people

SKILLS & SOFTWARE

Machine Learning	Keras / TensorFlow / PyTorch	Python	C++ / C
Computer Vision	Linux	SQL	ROS
Modeling & Simulation	Version Control (Git)	Tableau	Gazebo