Raihan Islam Arnob

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Career Objective

Ph.D. candidate in Computer Science specializing in robotics: long-horizon autonomous navigation and task planning under uncertainty. I aim to develop intelligent, adaptable systems that integrate classical planning with learning-based approaches to operate effectively in large-scale, partially known environments. My research focuses on enabling robots to gather information actively, adapt through self-correction, and reason under partial observability. I bring hands-on experience in deploying modular, explainable AI systems using GPU-accelerated pipelines, Docker-based infrastructure, and graph neural networks for semantic reasoning. I am seeking opportunities to apply my expertise toward building real-world, reliable autonomy in robotics or AI-driven systems.

Education

George Mason University — Fairfax, VA
PhD in Computer Science (CGPA 3.84) — *Aug. 2020 – May 2025*

George Mason University — Fairfax, VA
MSc in Computer Science (CGPA 3.82) — *Aug. 2020 – Aug 2023*

Experience

Graduate Research Assistant — Aug 2020 – Present
George Mason University — *Fairfax, VA, USA*

- Developed an approach that enables a robot to efficiently plan and execute tasks by quickly locating objects using learned priors about the object locations in the environment utilizing Python, PyTorch, PDDL, and Docker
- Improved a robot's behavior in a new environment by using intervention techniques, requiring minimal data and bypassing rigorous retraining, using Python, PyTorch, and Docker
- Developed an approach that enabled a robot to actively gather pertinent information in unfamiliar environments, allowing it to quickly reach its goals, using Python, PyTorch, GNN, and Docker.
- Devised method for long-term navigation of a robot in uncertain environments by incorporating predictions based on information the robot cannot currently see using Python, Pytorch, GNN, Docker.

Graduate Research Assistant — Jan 2020 – Aug 2020
Utah State University — *Logan, UT, USA*

- Developed a web application using REACT, mimicking the user interface of iOS for the qualitative study on usable security and privacy of the users for handheld devices.

Technical Skills

Languages (proficiency order): Python, C, C++, HTML, MATLAB, JAVA, PERL, SQL, PHP, C#.
ML Frameworks: PyTorch, TesnorFlow
Developer Tools: Git, Docker, PyCharm
Others: CUDA, ROS, Unix Shell Scripting

Extra-curricular

Team Lead of a robotics team of 16 people, participated in the competition of University Rover Challenge 2016 (2-4 June) organized by the Mars Society in the Mars Desert Research Station, Hanksville, Utah, USA.