UMANG RASTOGI

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EDUCATION

University of Maryland, College Park **GPA – 3.78/4.0**
M.Eng. Robotics *Aug 2019 - May 2021*

Manipal Institute of Technology, Manipal, India **GPA – 3.48/4.0**
B.Tech. Electronics and Communication Engineering *July 2015 - June 2019*
- Semester Abroad at Ecole Spéciale de Mécanique et d'Electricité (ESME Sudria) Rank - 2/50

WORK EXPERIENCE

Digital Dream Labs **Pittsburgh, PA**
Intern – Software Developer *Dec 2020 – Present*
- Keeping the beloved robotic pets, Vector and Cozmo, alive and well using continuous updates

Intern – Software Developer *June – Aug 2020*
- Optimized the data transfer process for Vector and Cozmo by 50%
- Accelerated the onboarding process of new hires by 90% by documenting the build process of the Cozmo robot

University of Maryland **College Park, MD**
Graduate Teaching Assistant – Software Development for Robotics *Aug – Dec 2020*
- Designed an efficient system to clarify the queries of students and improving clarification time by 75%
- Taught the students about software development cycles and robotics open-source software such Gaezbo

TIF Labs **Bengaluru, India**
Intern – Embedded Systems *Jan - June 2019*
- Revamped the component testing system increasing efficiency by 66%
- Improved average latency of data transfer by 90% using the ESP-Now protocol
- Generated technical content for blogs and video posts to explicit usage of DIY electronics

PROJECTS

Connect Me If You Can | GitHub *Apr – June 2020*
- Increased performance by 40% by solving the huge state space problem using a deep Q-learning network
- Employed 3 self-learning methods to train the AI player against various agents such as a minimax agent
- Modeled a graphical user interface using the Python Pygame library to run the Connect-4 game

Dynamic Path Planner | GitHub *Mar – May 2020*
- Optimized search algorithm to reduce exploration and pathfinding time by 99%
- Collaborated with a 3-member team of cross-functional backgrounds to cover all parts of the project
- Constructed a custom environment in ROS-Gazebo to test the algorithm in non-static conditions

Supermarket Cleaning Robot | GitHub *Oct – Dec 2019*
- Ensured quality by employing test-driven development to gain a code coverage of 92%
- Managed a 4-team member by proper division and distribution of tasks among them
- Simulated object detection and collection using ROS Kinetic and Gazebo on the Turtlebot

Self-Balancing Robot *May – Sept 2017*
- Coordinated a team of 5 members to build a 2-wheeled self-balancing robot
- Developed a control algorithm using LQR controller via MATLAB Simulink

SKILLS

Programming languages: Python, C++
Software Development: Version Control, Agile Development, Unit Testing, Google Mock/Test Framework
Software: ROS, Visual Studio Code, PyCharm, Git, MATLAB, Microsoft Office
Operating Systems: Windows, Linux

ACTIVITIES

A. James Clark College of Engineering, *Graduate Student Senator* *Nov 2020 – Present*
Engineering Graduate Student Society, *Robotics Representative* *Aug 2020 – Present*