Ibrahim Musaddequr Rahman

roughtar@gmail.com • 304-413-5868 • 208 Patriot Lane • GitHub • LinkedIn • Site

EDUCATION

University of Michigan **Ann Arbor, MI**
BSE Computer Science, Minor in Mathematics *May 2025*
GPA: 3.96 / 4.00
Coursework: Data Structures & Algorithms, Discrete Math, Linear Algebra, Intro to Probability & Statistics, Intro to Computer Organization, Intro to Computer Security, Intro to Machine Learning

SKILLS

Programming Languages: C++, Python, Java, JavaScript, TypeScript, HTML/CSS, LabView
Frameworks & Interfaces: ROS, Gazebo, Bootstrap, Firebase, JQuery, React
Operating Systems: Windows, MacOS, Ubuntu, Fedora

WORK EXPERIENCE

National Science Foundation **Morgantown, WV**
REU Student Researcher *May 2022 – July 2022*
- Developed multi-step machine learning pipeline to imitate swarm behavior using simple local agent controllers
- Applied genetic algorithms, linear regression, and non-linear optimization to mimic fish school
- Built interface to run learned controllers on physical robot swarms
- Wrote corresponding research paper to communicate impact, accepted to American Controls Conference

West Virginia University Interactive Robotics Lab **Morgantown, WV**
Undergraduate Researcher *May 2020 – October 2021*
- Developed ROS + Gazebo Simulations to model Robot-Based Pollination
- Converted physical robots into 3D models to run existing code in a simulated environment

PROJECT EXPERIENCE

Fastr Food, MHACKS-14 Hackathon Submission **Ann Arbor, MI**
Backend Developer *October 2021*
- Designed web app to crowdsource Dining Hall Wait Times across 4 locations
- Interfaced with a Firebase and Google Maps to factor in Commute Times + Line Lengths
- Collaborated on a cross-university team to win Best Beginner Hack / 28 and 2nd Best Google Cloud Hack / 60

Marvin 13, FRC Robot **Morgantown, WV**
Lead Programmer *January 2020-April 2021*
- Implemented control algorithms to allow a turreted shooter to make shots while moving
- Tuned autonomous routine to obtain and score 6 balls in 9s while driving

LEADERSHIP EXPERIENCE

University of Michigan **Ann Arbor, MI**
Resident Advisor, SubFree Theme Community *August 2022 – Present*
- Foster relationship development among 42 Freshman and Sophomore residents
- Maintain a safe space for residents who wish to live Substance Free with dedicated programming

FIRST Robotics Competition (FRC) Team 2614 **Morgantown, WV**
Lead Programmer, Lead Strategist, Secretary *2016 – 2021*
- Led 10-person Programming Subteam to develop control algorithms and win Autonomous Award
- Represented team in Strategic Discussions with competitors and partners to win 4 Regional Events
- Coordinated personnel allocation of 40-person team throughout 4 locations during competition

Boy Scouts Troop 49 **Morgantown, WV**
Eagle Scout Project *September 2019 – August 2020*