Rajan Patkar

rajpatkar.github.io/contact (309) 863-7053 rajan.patkar.email@gmail.com

Relevant Experience:

STEM Student Trainee at Caterpillar Trimble Control Technologies (Jun. 2021 – Aug. 2021):

- Automated testing of calibration software for hydraulic excavators using MATLAB
- Optimized simulation and testing environment for speed, reliability, and efficiency
- Created project reports and extensively documented solutions for future maintenance
- Worked within a team to deliver project ahead of schedule for fall software release

Technology Development Volunteer Intern at The Farmlink Project (Jun. 2020 – Aug. 2020):

- Produced solutions within project group to optimize sustainability of food delivery system
- Reduced delivery emissions by optimizing driving distances for volunteers in JavaScript
- Built automatic tax deduction tool for farmers' food donations with JavaScript & G Suite

Skills:

- Proficient in MATLAB, Java, Python, C, JavaScript, HTML/CSS, and CAD (AutoCAD)
- Harmonious, detail-oriented, and industrious collaborator in task-oriented environments
- Well-practiced interpersonal, digital, and presentational communicator
- Limited working proficiency in Spanish with B1-level written and oral communication

Projects:

Academic Research (Jan. 2022 – present, Sep. 2020 – May 2021):

- Filtering atomic force microscope data with MATLAB for material analysis of hydrogels
- Completed and presented mathematics research project on self-duality of k-Schur basis
- Excelled at synthesizing hypotheses found with Python/Jupyter-based tool SageMath

Illinois Robotics in Space & FIRST Robotics (Jan. 2022 – present, Sep. 2014 – May 2021):

- Developed motion control, vision processing, and interfacing algorithms in Java
- Programmed robot vision/guidance system in Python using reflectivity camera

Academic Projects (Aug. 2018 – present):

- Applied Python in visualization algorithms for particle physics and electromagnetism
- Designing new VR-based physics education curriculum with team using Unity and C++

Education:

University of Illinois at Urbana-Champaign (Aug. 2021 – May 2025) – 4.0 GPA:

- Pursuing Bachelor of Science in Computer Engineering

Illinois Mathematics and Science Academy (IMSA) (Aug. 2018 – Jun. 2021) – 3.8 GPA:

- Concentrated heavily on computer science, physics, and math at STEM-focused school