

# Maanu Grover

mgrover3@illinois.edu

630-258-9190

1749 Trevino Circle, Bolingbrook, IL

## EDUCATION

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### University of Illinois at Urbana-Champaign

*Computer Science; Bachelor's of Science*

GPA: 3.53/4.00

*August 2017 - May 2021*

- **Coursework:** Algorithms & Models of Computation, Data Structures, Distributed Systems, Applied Parallel Programming, System Programming, Database Systems, Computer Security, Languages & Compilers

## WORK EXPERIENCE

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### Advanced Reactors and Fuel Cycles (ARFC)

*Undergraduate Research Assistant for Nuclear Engineering Department*

Champaign, IL

*May 2019 - August 2019*

- Debugged a variety of issues in a Python nuclear engineering toolkit (PyNE) to ensure accurate functionality
- Re-implemented CircleCI integration tests to use most recent data sources to ensure library produces precise results, isolating test cases in different Docker containers with different optional dependencies
- Updated documentation to provide more accurate information on features, updates, and installation
- Overhauled Bash installation scripts and Dockerfiles for PyNE to reduce obsolete dependencies, update required dependencies to latest versions, reduce required permissions to install the library, and reorganize dependency package management

## PROJECTS

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### Ray Tracer

*January 2018 - May 2018*

- Implemented a physically-based renderer using principles of light optics including reflectivity and transparency, improving render quality using multi-sampling
- Utilized a tree-like bounding volume hierarchy data structure to optimize organization of geometric primitives, especially for rendering larger triangle mesh models, improving ray-intersection detection to logarithmic time

### Password Safe

*November 2017 - January 2018*

- Built a command-line interface password safe, ensuring confidentiality of data entries through SHA-256 hashing and Triple DES encryption, and utilizing a REPL to interact with user
- Utilized of Java archives to allow releases of project to be portable and minimize required dependencies

## ACTIVITIES

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### Illinois Rise Ultimate Frisbee

*August 2017 - Present*

- Manage club funds as program treasurer during 2020-2021 academic year for over 100 program members; responsibilities include selecting hotels when traveling, collecting fees for tournaments, managing jersey creation and procurement, and obtaining team equipment
- Captain B-team in Spring 2019 season to a 2nd place finish at Great Lakes Sectionals and facilitate team's growth by planning practices, designing drills, making roster decisions, and boosting morale at tournaments
- Train and compete with a team of like-minded individuals in the sport of ultimate frisbee

### Chair of GNU Linux User Group (ACM)

*August 2018 - December 2018*

- Special interest group focused on promoting use of Linux and development of free and open source software
- Involved in projects to provide tools for computer science, engineering students and other ACM members to use

### CS 125 Course Assistant

*January 2018 - May 2018*

- Held 2-3 weekly office hours with 5-10 students present to discuss issues students faced with machine problems
- Attended a weekly lab section to provide more accessible guidance and instruction through one-on-one assistance

## PROGRAMMING SKILLS

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**Languages:** Java, C, C++, Python, Bash, Verilog, MIPS, Markdown, LaTeX

**Tools/Technologies:** Git, Docker, Raspberry Pi, ViM