Maanu Grover

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github.com/mongwell

EDUCATION

University of Illinois   Urbana-Champaign, IL
Computer Science; GPA: 3.52/4.00   *August 2017 - Present*
- **Coursework**: Algorithms & Models of Computation, Algorithms (additional elective), System Programming, Distributed Systems, Applied Parallel Programming, Database Systems, Computer Security, Programming Languages & Compilers, Computer Architecture, Data Structures with Honors: Geometric Structures for Graphics, Probability and Statistics for Computer Science, Numerical Methods, Applied Linear Algebra, Virtual Reality

WORK EXPERIENCE

Advanced Reactors and Fuel Cycles (ARFC)   Champaign, IL
Undergraduate Research Assistant for Nuclear Engineering Department   *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 the most recent data sources to ensure the 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

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 using SHA-256 hashing and Triple DES encryption, and utilizing a REPL to interact with the user
- Made use of Java archives to allow releases of the project to be portable and minimize required dependencies

ACTIVITIES

Illinois Rise Ultimate Frisbee   *August 2017 - Present*
- Manage club funds as program treasurer during the 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 the B-team in the Spring 2019 season to a 2nd place finish at the 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 the use of Linux and the 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 the machine problems
- Attended a weekly lab section to provide more accessible guidance and instruction through one-on-one assistance

PROGRAMMING SKILLS

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

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