Nicholas Harras

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Education

Rutgers University — New Brunswick, NJ
B.S. in Computer Science — *May 2019*

- **Related Coursework:** Algorithms *(present)*, Principles of Programming Languages *(present)*, Intro to AI, Computer Architecture, Discrete Structures I/II, Linear Algebra, Calculus I/II, Data Structures

Experience

SEMGeeks — Belmar, NJ
Web Development Intern — *September 2017 - present*

- Experience with WordPress and HTML/CSS. (Revise)
- Experience researching malicious PHP scripts that had stolen client into using stenography
- Worked closely with professional web designers

Campus Activities

Undergraduate Student Alliance of Computer Scientists — Piscataway, NJ
Mentor/Member — *September 2016 - present*

- Collaborating closely with members of K-12 outreach program for STEM fields
- Mentoring a group of three computer science majors on a wide range of projects they wanted to get off the ground.
- Assisting computer science first-years with their coursework.

Creation of Games Society — Piscataway, NJ
Member — *September 2016 - present*

- Developing an isometric beat-em-up in **Unity**. As the team member most experienced with **Git**, I've taken on most project management responsibility.
- Developed a light-based puzzle game in **Java** using the **LibGDX** library

HackRU — Piscataway, NJ
Volunteer — *May 2017*

- Assisted hackers throughout the event with technical issues, specifically regarding **Python** and **Java** errors

Projects

Probabilistic Search Program
Program written in **Python** that uses a belief state matrix and Bayesian formulas to find a particular cell in a grid, despite a ranging likelihood of false-positives.

- Decreased average search time by replacing a priority-queue-based movement system with a matrix informed by a changing belief state and the program's current position
- Increased likelihood of a hit when the program is searching the correct cell by applying the likelihood of a false negative to Bayes' Theorem

Cache Simulator
C program that efficiently parses pseudo-memory text files, utilizing bit indexing, locality algorithms, and masking techniques.

Skills

- **Programming Languages:** Proficient in Java and Python; Familiar with C, PHP, JavaScript, HTML/CSS, R, and Lisp (Scheme)
- **Technology and Software:** Git, Node.js, WordPress, Bootstrap, Unity, LibGDX, LaTeX, MongoDB