

NICHOLAS HARRAS

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EDUCATION

Rutgers University

B.S. in Computer Science

New Brunswick, NJ

August 2018

- **Related Coursework:** Linear Optimization, Computer Security, Databases, Internet Technology, Systems Programming, Algorithms, Principles of Programming Languages, Intro to A.I., Computer Architecture, Discrete Structures I/II, Linear Algebra, Calculus I/II, Data Structures

PROJECTS

Probabilistic Search Program

Python program that searches a matrix for a specific cell, despite incurring a cost for orthogonal movement and a ranging likelihood of false-negatives for each cell

- Created a “confidence matrix” by applying Bayes’ Theorem to the false-negative rate of any visited cell
- Decreased average search time by replacing a priority queue based search optimization algorithm with a “cost-benefit matrix,” informed by the confidence matrix and the cost to search any given cell

“Whitecliff Castle and the Thousand Doors” Supplement

Command-line program written in **Python** designed to supplement a home-brewed *Dungeons & Dragons* module

- Developed an algorithm that models the changing layout of the game’s map by randomly redistributing the edges of a graph
- Decreased algorithm’s time complexity to linear time by utilizing an open and closed list for each node in the graph
- Included a simple AI capable of traversing a graph in search of a particular node

“BuyMe Shop” Databases Project

EBay-inspired database model, built with an **AWS MySQL** server and **JSP** webpages

- Modeled a database schema that suited our given needs, then built it in **MySQL**, hosted on **AWS**
- Worked with **HTTP** methods to allow webpages could smoothly interact with each other
- Ran various QA tests and bugfixes against user inputs

EXPERIENCE

SEMGeeks

Web Development Intern

Belmar, NJ

September - December 2017

- Worked closely with web developers and designers to help create websites for small businesses
- Utilized **WordPress** and **HTML/CSS** in a professional setting
- Researched malicious **PHP** scripts that had stolen client information using steganography

CAMPUS ACTIVITIES

Undergraduate Student Alliance of Computer Scientists

Mentor/Member

Piscataway, NJ

September 2016 - June 2018

- Taught a group of four CS students the basics of **Bash**, **Git**, as well as data structures and other CS concepts
- Offered guidance to CS students with respect to clubs to join, topics to explore, textbooks to read, etc.
- Assisted computer science first-years with their coursework

HackRU

Volunteer

Piscataway, NJ

May 2017

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

SKILLS

- **Programming Languages:** Proficient in Python, C, and Java; Familiar with C++, JavaScript, and Lisp (Scheme)
- **Technology and Software:** Git, MySQL, JSP, AWS (RDS and EC2), WordPress, HTML/CSS, \LaTeX