

# NICHOLAS HARRAS

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## EDUCATION

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### 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

## EXPERIENCE

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### 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

## PROJECTS

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### 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

### Neural Network Colorizer

**Python** program that attempts to colorize black and white images with a neural network

- Outlined a more realistic goal for the program to achieve and accordingly trained the network on a more specific data set

### Cache Simulator

**C** program that simulates cache locality algorithms by reading and writing pseudo-memory text files

- Greatly reduced runtime by switching to bitwise operations for memory address parsing, notably with masking techniques

## CAMPUS ACTIVITIES

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### 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

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- **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,  $\text{\LaTeX}$