VALERIE NAYAK

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EDUCATION

Carnegie Mellon University August 2020 - May 2024
School of Computer Science

- **Relevant Upcoming Coursework:** Principles of Imperative Computation, Great Practical Ideas in Computer Science, Mathematical Foundations of Computer Science, Matrices and Linear Transformations

Thomas Jefferson High School for Science and Technology September 2016 - June 2020
Weighted GPA: 4.32/4.0

- **Relevant Coursework:** Parallel Computing, Mobile Application Development, Web Development, Artificial Intelligence, AP Calculus BC, AP Computer Science A and Data Structures, AP Statistics
- **National Merit Finalist**

EXPERIENCE

Georgetown University, InfoSense - Washington D.C. June 2019 - August 2019
Research Intern with Prof. Grace Hui Yang

Cowrote research paper on detecting user struggles in web search. Analyzed search engine log features and used statistical correlation to determine which features to use in training our neural classification model.

National University of Singapore - Singapore June 2018 - August 2018
Intern with Prof. Hon-wai Leong

Analyzed data from set of raw text (1300 student essays from a course) using n-grams analysis, graph clustering and community detection, and Python sentiment analysis tools. Worked as a teaching assistant for an elementary school summer workshop. Helped teach 40 students computer science principles with Scratch and the Machine Learning for Kids platform.

LANGUAGES AND TOOLS

Languages: Proficient in Python and Java. Familiar with C, JavaScript, SQL, HTML, CSS.

Tools: Have experience with git, numpy, fastai, matplotlib, Android Studio

PROJECTS

Othello
Implemented a bot to play Othello using the minimax algorithm and alpha-beta pruning. Chose heuristics to weight states score board states in the game tree to choose which move to make.

Crossword Maker
Created diagonally symmetrical crossword grids with a given board size and specified number of blocking squares. Then implemented a way to recursively fill in the puzzle with dictionary words.

RELATED ACTIVITIES

Webmaster - Scotch'n'Soda Theatre (*snstheatre.org*) June 2020 - Present
Regular content updates for college theater website. Redesigned existing pages and added new features such as photo galleries and documentation pages with embedded PDFs. Use HTML, JavaScript, CSS.