

Joshua Dudley

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Education

University of Illinois at Chicago:

8/26/2019 - Expected 5/6/2023

Bachelor in Computer Science

- Relevant Coursework: Data Structures, Computer Algorithms, Artificial Intelligence, Systems Programming, Machine Learning, Natural Language Processing, Secure Web Development
- Current Coursework: Networking Security, Database Systems

Skills

- Proficient: Javascript, Node.js, React, SQL, C, C++, Python3, git/github
- Familiar: Java, Maven, Catch, C#, F#, Flutter

Experience

Undergraduate Teaching Assistant | Systems Engineering

August 23, 2021 - Present

- Helped students in office hours with content or homework related issues.
- Taught Systems Engineering concepts in the languages Rust and C
- Graded homeworks and exams for 200 students.

Research

High Dimensional Robust Statistics

- Under Prof. Yu Cheng, ran experiments to verify theorems in the field of High Dimensional Robust Statistics.
- Explored how to minimize error for machine learning algorithms in the presence of an adversary changing a certain percentage of data

Projects

MyFitnessProject (Flutter, Firebase)

- Utilized Firebase's inhouse Authentication System for app's authentication.
- Designed Mock UI's in Adobe XD using Material UI components.
- Created functionality for users to add, edit, and view their current day's workout alongside a full workout plan.
- Implemented charting functionality to see a user's exercise progress overtime.

NEAT Tetris (Python)

- Applied the genetic learning algorithm: "NeuroEvolution of Augmenting Topologies" to a competitive two player tetris environment
- Tested different learning parameters such as learning rate, fitness score, board representations
- Built a visualizer in PyGame to visualize the models performance

MyPlaylist (React , Express, SQLite3, Github Actions, Heroku)

- Implemented Spotify's Authorization flow to use Spotify API to search, play songs, and retrieve user's profile data.
- Designed a system so users can search, play, and add songs from both Youtube or Spotify from/into one continuous playlist.
- Dockerized frontend and backend to get automatically deployed via Github Actions to Heroku.