

WILLIAM SHELLEY

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SKILLS

Python3, C++, Java, JavaScript, Deep/Machine Learning, Ruby, Git, Numpy, HTML, CSS, React, Redux, Node.js, Express.js, Webpack, Three.js, AJAX, jQuery, Ruby on Rails, Mongoose, MongoDB, SQL, SQLite3, PostgreSQL, Heroku

EDUCATION

BS Computer Science - Skidmore College

May 2021

Relevant Coursework - Data Structures, Algorithms, Artificial Intelligence, Operating Systems, Linear Algebra, Discrete Structures and Logic, Computer Networks, Digital Image Processing, Computer Architecture and Organization, Software Engineering, Computer Vision, Machine Learning

Web Development - App Academy

September 2020

16 week intensive bootcamp with full-stack test driven development experience

EXPERIENCE

Backend Developer

Blue Water Financial Technologies

March 2021 - Present

- Utilized Pandas and Numpy to implement scalable and generalizable functions dealing with converting datasets to company usable formats

Peer Academic Coach in Computer Science

Skidmore College

August 2020 - Present

- Led over 3 group and individual tutoring sessions per week to assist peers with technical skills
- Devised efficient studying strategies for advanced software engineering classes e.g. artificial intelligence and algorithm design/analysis

TECHNICAL PROJECTS

RECURRENT NEURAL NET (Python3)

[github](#)

Recurrent neural network built from scratch (layers, cost and activation functions are easily customized and swapped out)

- Works with many different datasets like those from California Ervine and iris
- Designed network such that the learning rate gradually shrinks as training progresses and the training stops once the total network error has reached a low enough value (customizable on instantiation)

ELBOW ARCHIVE (Rails, ReactJS, Redux, AWS, Heroku)

[live](#) | [github](#)

Facebook clone (single-page-app) where users can search/befriend other users, make posts, comments, likes, and upload photos.

- Designed a customized filter for responsive and real-time search for users without $N + 1$ database queries
- Implemented social network by creating a PostgreSQL table to track unique requests by senders and recipients
- Ensured user security and managed user editing access through frontend and backend authentication procedures
- Improved database efficiency by 30% utilizing one-to-many polymorphic associations

LeetWager (ExpressJS, NodeJS, ReactJS, Mongoose, CSS)

[live](#) | [github](#)

A web app where users can create/bet on wagers, post messages, view stats, and base betting decisions on rolling odds

- Integrated two external APIs that served odds and results for wagers before condensing and normalizing data retrieved for reliable $O(1)$ access time
- Improved data integrity through the utilization of reliable functions that calculated user-specific information based on pre-existing tables

Virtually Pottery (Vanilla JS, NodeJS, Webpack, ThreeJS, Sass, GitHub Pages)

[live](#) | [github](#)

Single-page interactive 3D pottery studio where the user can shape and glaze ceramics with an artistic toolkit

- Optimized performance of real-time object updates by setting a maximum vertex buffer size and selecting slices of the buffer to update the model's vertices
- Ensured realistic animation by calculating a user's wall-pulling speed relative to the wheel head speed, and created 3D effects with directional light and dynamic backgrounds