

My background as a Ph.D. level research engineer in chemical engineering has proven to be an essential asset in advanced problem-solving. I'm looking for a career in programming to leverage my background and my skills in C, C#, python, and JavaScript to solve issues. I'm comfortable working solo, as well in collaboration as demonstrated from my experience working with teams in research labs and the collaborative efforts required for journal publications.

Skills

Languages - JavaScript, HTML, CSS, Python, SQL, JSON, C, C#

Database - PostgreSQL (bit.io, Neon), SQLite, MongoDB | **Other** - RESTful Routing, JSON/XML API, Web Scraping

Libraries and Frameworks - React (class based and hooks), Express, Django, Flask, JQuery, Bootstrap, Materialize

Software Development Projects

January 2023 - PRESENT

Battleship – browser game vs. AI

- Leveraged embedded Javascript, Vanilla Javascript, CSS3, and HTML5 to organize and display the visual aspects
- Created different difficulties that adjusts the AI, with the harder difficulty making the AI take smarter moves
- Automated turns and placement of ships allow user to play games quickly, and displaying messages allow for an interactive experience even in a static application

Chemi – Chemistry application for compound lookup and folder management

- Utilized MEN stack(MongoDB, Express, Node.js) to build the backend for a full stack application in a few days. Full create, read, update, delete (CRUD) operations hitting all RESTful API calls.
- Wireframed and planned UI design of application using Trello and made ERD using Lucidcharts.
- Utilized Git control during the production of the application with frequent commits until deployment.
- Search engine utilized PUG REST, a PubChem URL-based API.
- ChemDoodle Web Components used to build and stylize a chemical sketcher, as well as obtain .mol text from input to be used to search for the drawn compound.
- Used Google's Oauth for authentication, and deployed using Heroku

Poképedia – Pokemon information and products in one application

- Utilized Django, Django templating language(DTL), PostgreSQL, and python to build a full stack application in a team, where I stepped up to lead the group.
- Acted as github manager and general manager of the project, ensuring team workflow resulted in few merge conflicts.
- Utilized PokeAPI to implement full create, read, update, delete (CRUD) operations hitting all RESTful API calls.
- Used python library Beautiful Soup to scrape information from web pages to load products related to individual pokemon from e-commerce sites to be rendered within our site, with links to an external page to purchase.
- Implemented favorite/wishlist functionality for pokemon/products for user signed in using Django's built-in authentication methods.
- Used AWS S3 for cloud object storage for user profile images, with the option of selecting from a list of defaults.

Finance50 – Practice stock trading website with real-time price updates

- Utilized Flask, Jinja, SQLite, and python to build a full stack application.
 - Utilized Werkzeug security to hash passwords and implement authorization.
 - Utilized IEX Cloud API for stock market data to implement full create, read, update, delete (CRUD) operations.
 - Initially built in an AWS cloud-based IDE, then rebuilt to function outside of that environment.
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Professional Experience

Software Engineer Fellow | General Assembly | Remote

April 2023 - PRESENT

- Working on software engineering projects, including team collaboration, all within a remote environment.
- Helping others in a remote environment by answering questions in Slack

Graduate Research Engineer | Tennessee Tech University | Cookeville, TN

August 2015 – August 2020

- Graduate research in the cryogenic electronics research lab at TTU
- Preparing and analyzing samples, handling experiments in cryogenic conditions
- Two publications in the Journal of Cryogenics involving characterization of polymers.
- Collaboration with MIT and Auburn University
- Presented research at a national conference, where I was awarded best presentation for my symposium.

Battery Research Engineer | Oak Ridge National Lab | Oak Ridge, TN

May 2016 – August 2016

- Distinguished Scholar internship including collaboration with Volkswagen
- Researched alternative battery materials at the ORNL Battery Manufacturing Facility
- Converting biopolymers to carbon to be used in lithium-ion batteries

EDUCATION

General Assembly | Remote

April 2023 - PRESENT

Software Engineering Immersive

Full-stack software engineering immersive student in an intensive, 12-week, 450+ hour program focused on product development fundamentals, object-oriented programming, MVC frameworks, data modeling, and team collaboration strategies. Developed a portfolio of individual and group projects.

Harvard University's CS50 on edX | Remote

December 2022 – February 2023

Certified completion of Harvard's Introduction to Computer Sciences

Tennessee Technological University | Cookeville, TN

2010-2020

Chemical Engineering Ph.D.,

Chemical Engineering B.S.,

Biochemistry B.S.,

Cellular Biology B.S.