Michael Novotny

(304) 962-5390 | michael@novotny.io | novotny.io | github.com/mnovo323

Professional Goal

I want to build great products with great people. I really enjoy compiled languages, but I'm a shoe in for TypeScript and Python positions as well.

Education

Marshall University — Huntington, WV
Bachelor of Science in Computer Science — *December 2023*

Experience

Application Developer — January 2024 – Present
TC Energy — *South Charleston, WV*

- Integrated a react application into an angular application.
- Ingested GIS data and created custom datasets to be indexed on many different fields
- Refactored critical AWS Lambdas to use Golang instead of TypeScript.

Application Developer Intern — May 2023 – December 2023
TC Energy — *South Charleston, WV*

- Led UI overhaul of GIS-based React web app, enhancing user interface and receiving positive feedback.
- Engineered a custom floating window manager for the UI overhaul, enhancing interactivity and user control of the application layout.
- Implemented live notifications and customizable saved views, boosting user engagement and collaboration.
- Developed modular, efficient React components for improved maintainability and development speed.

Dryland Ecology Laboratory Computer Programmer — July 2022 – October 2022
Marshall University — *Huntington, WV*

- Maintained a dryland ecology simulation software written in C
- Implemented new wildfire probability model based on latest mathematical models
- Tracked issues on GitHub using projects

Projects

GroupMe Bot | *Python, Flask, PostgreSQL, Git, Heroku* — Completed

- Developed a backend application serving a REST API to interact with users and perform helpful functions in a GroupMe group message
- Implemented basic authentication to have multiple types of users
- Implemented consumption of multiple APIs to send out a helpful daily message
- Sanitized user input to prevent SQL injection and XSS attacks
- Deployed on Heroku

mrandom Node Package | *TypeScript, Node.js, Git* — Completed

- Developed a fully typed TypeScript package, 'mrandom', replicating Python's random library functionality.
- Implemented the xoroshift128+ algorithm to ensure high-quality, efficient random number generation.
- Focused on creating a user-friendly interface for developers familiar with Python's random library, facilitating ease of transition and usage in Node.js environments.
- Conducted extensive testing to ensure reliability and performance consistency with Python's original library.

Virtual Reality 4D Visualizer | *TypeScript, Node.js, Three.js, Git/GitHub* — Completed

- Engineered a web-based VR application for visualizing 4D objects, leveraging advanced 3D graphics and linear algebra concepts.
- Designed to provide students with an intuitive understanding of 4D spaces.
- Implemented interactive features allowing users to explore 3D slices of 4D objects.

Technical Skills

Languages: TypeScript, JavaScript, Java, Python, C, C++, Golang, SQL (Postgres), HTML/CSS
Frameworks: React, Node.js, Flask, Django, Echo, Express
Developer Tools: AWS, Git/GitHub, Heroku, VS Code, Visual Studio, Eclipse, Linux
Human Languages: English (native), German (business proficient)