

EVAN HOWELL

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EDUCATION

Appalachian State University – Bachelor of Science in Computer Science

Recieved 2024

Wilkes Community College – Associates of Science

Recieved 2021

PROFESSIONAL EXPERIENCE

Back-End Developer, Hunger and Health Coalition

Aug 2024 — Dec 2024

- Developed backend with Java Spring Boot
- Redesigned infrastructure, optimizing performance and scalability.
- Implemented security tokens for data protection.
- Restructured Database Schema
- Migrated project from cloud to standalone server.
- Utilized Postman for comprehensive API testing and documentation, ensuring API reliability and developer-friendly integration.
- Worked with front-end teams to incorporate their requirements for data queries
- Wrote comprehensive documentation for the project

IT Lead, Mawetal LLC.

May 2023 — Jul 2023

- Facilitated CDP filing process achieving a coveted Carbon Credit Rating.
- Provided critical support ensuring seamless submission
- Read through complex documentation to resolve integration of key images and data into submission
- Attended Multinational Meetings
- Managed data for filing, publication, issuance, and maintenance across 18 complex spreadsheets
- Created consolidated master data XLSX for international patent applications/granted patents [filing, publication, issuance, maintenance, etc] from > 18 different complex spreadsheets, each having disparate data from > 18 countries. This included over 500 lines of complex XSLX data.

PROJECTS

Invoice Application

Jan 2025 — Present

- Developing an invoice management application using Python and CustomTkinter for a modern, and user-friendly GUI.
- Utilizing JSON to store and retrieve invoice data, ensuring seamless data management and portability.
- Implementing functionality to generate professional, exportable invoices in PDF format for end users.
- Designing features for creating, editing, and managing invoices with dynamic input fields and validation.
- Prioritizing scalability and modularity to support future enhancements and potential integration with external systems.

Neural Network Implementation Project

Aug 2024 — Dec 2024

- Implemented a modular neural network framework in Python, including layers (Dense, Dropout), activation functions (ReLU, Sigmoid, Softmax), and metrics (Binary, Categorical, Ternary Accuracy).
- Developed custom loss functions (Mean Squared Error, Categorical Cross-Entropy, Log Loss) and regularizers (L1, L2) for training and evaluation.
- Created a Sequential model structure with forward propagation, backpropagation, and parameter optimization using gradient descent.
- Ensured robust architecture by implementing validations for layer compatibility and proper activation usage.
- Enhanced model flexibility through customizable initialization, dropout rates, and support for various statistical metrics and loss functions.

Y86 Pipeline Simulator

Jan 2024 — May 2024

- Implemented key stages (e.g., Fetch, Decode, Execute, Memory, Writeback) in a Y86 pipelined processor simulator written in C++.
- Integrated hazard detection and resolution logic, such as data forwarding and pipeline stalling, into existing framework.
- Validated functionality of pipeline stages through testing with provided benchmark programs to ensure correct instruction execution.
- Collaborated in a team environment by applying version control (e.g., Git) and managing tasks using Agile practices.
- Gained hands-on experience with low-level processor architecture and pipeline design concepts.

SKILLS

- Code: Java, Python, C, C++, MySQL, Haskell, R, HTML, CSS, JavaScript, Object-Oriented Programming (OOP), SQL, React, CustomTkinter
- Tools: Git, Postman, Visual Studio Code, Vim, Shell, Maven, Spring Boot, MySql Workbench/Server
- Other: Neural Networks, API Development, Data Management, Data Analysis, Spreadsheet Management (Excel, XLSX), Database Schema Design, Data Migration, Security Token Implementation, Cloud Services & Standalone Server Deployment, Unit Testing, Agile Methodology