Daniel Coblentz

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Education

Hood College Frederick, MD
Bachelor of Science in Computer Science *August 2023 – May 2026*

Frederick Community College Frederick, MD
Associate's in General studies *August 2021 – May 2023*

Experience

Web Development Intern May 2024 – August 2024
International Help *Remote*

- Implemented interactive mapping features using HTML, CSS, and Google Data Studio to display health worker metrics globally, increasing user engagement by 20% through improved visualization of health worker deployment and project outcomes.
- Ensured data accuracy and relevance by leading the cleaning, analysis, and visualization of diverse datasets from the nonprofit's database using Excel and custom scripts.
- Automated data processing and enhanced visualization efficiency by 40% through custom scripts and SQL queries, reducing manual workload and optimizing the end-to-end workflow.

Undergraduate Teaching Assistant February 2024 – Present
Hood College *Frederick, MD*

- Lead discussion sections and office hours for over 40 students, explaining OOP principles, loops, methods, and classes using Python and Java.
- conducted code reviews on projects and assignments, and provided detailed feedback including best practices for back-end development to help students improve their coding skills.

Projects

Signify | *Python, TensorFlow, Keras, matplotlib, Google Colab* September 2024 – October 2024

- Achieved 99.07% validation accuracy on a hand gesture recognition dataset by fine-tuning a pre-trained VGG16 model with custom layers and data augmentation, enhancing model robustness and reducing overfitting.
- Optimized training by implementing early stopping, which prevented overfitting and minimized training time, while achieving high accuracy within 20 epochs.

Exosky! | *Python, Flask, Astropy, Gaia DR3, three.js, HTML, CSS, Git* September 2024 – Oct 2024

- Developed a web application using JavaScript, Three.js, and Flask, enabling users to visualize the night sky from various exoplanets by rendering star maps based on real astronomical data from the NASA exoplanet archive.
- Implemented a dynamic drop-down feature that queries data from an API endpoint allowing users to select exoplanets from a dataset of over 5,000 entries.
- Fetched and processed astronomical data from various API endpoints, effectively querying for exoplanet coordinates and nearby stars using the Gaia DR3 catalog, resulting in a comprehensive display of star positions and characteristics for users to view.

Box Office predictive analysis | *R, Git* June 2024 – Aug. 2024

- Conducted an in-depth analysis of Hollywood box office data using R, involving data cleaning, visualization, and the application of statistical models to examine domestic gross earnings.
- Developed and evaluated linear regression models to predict domestic gross income, incorporating variables like opening weekend earnings and audience scores, with a focus on differentiating financial outcomes across genres.
- Implemented model diagnostics to evaluate model performance, including residual analysis and simulation of datasets, ensuring robust predictions and insights into Hollywood film earnings.

Technical Skills

Languages: Java, Python, C++, HTML, CSS, JavaScript, SQL, R, Assembly
Developer tools: VS-Code, Eclipse, Google Cloud Platform, IntelliJ, Eclipse, Docker, Figma, Git, Postman
Framework: GitHub, WordPress, Flask, TensorFlow, PyTorch, Pandas, OpenCV, Matplotlib, Astropy, Jupyter notebook, Keras