Wesley Meredith

704-619-2058 wmeredith777@gmail.com linkedin.com/in/wesleymeredith/ github.com/wesleymeredith

Education

NC State University **Aug. 2023 – May 2025**
M.S. in Computer Science *Raleigh, NC*

Clemson University **Aug. 2018 – July 2023**
B.S. in Biochemistry *Clemson, SC*
MSCS Ready Program

Relevant Coursework

- Machine Learning
- Data Mining
- Data Structures
- Operating Systems
- Software Engineering
- Computer Architecture
- Algorithmic Analysis

Projects

Housing Price Prediction | *Python, scikit-learn, TensorFlow, Keras* **Machine Learning**

- Enhanced prediction accuracy by 15% through skillful implementation and optimization of decision tree, Random Forest, XGBoost, and ANN models.
- Secured a top 12% ranking (among 24,000 participants) on Kaggle's housing price prediction challenge by effectively applying machine learning algorithms, feature engineering, hyperparameter tuning techniques.
- Addressed data quality issues and imbalanced classes through targeted data cleaning techniques, leading to a 5% boost in prediction accuracy and improved model robustness.

Spotify 'Wrapped' Clone | *Python, Flask, Spotify API, HTML, CSS* **Full-Stack Development**

- Developed a dynamic Flask-based web application providing a user-friendly interface for displaying Spotify Wrapped data, showcasing users' top artists and tracks from their Spotify history.
- Integrated Spotify API using Spotipy, with OAuth2 authentication for secure user login, access token handling, and establishing a user authentication system.
- Designed and implemented a dynamic webpage to present the user's top artists in an organized and visually appealing manner.

Drowsiness Detector | *Python, OpenCV, dlib* **Computer Vision**

- Boosted personal productivity by developing a real-time drowsiness detection system (OpenCV, dlib) to combat Zoom meeting fatigue.
- Implemented a customizable EAR threshold algorithm, enabling personalized drowsiness alerts tailored to individual drowsy patterns and preferences.

Experience

Undergraduate Research Assistant **The Birtwistle Lab, Clemson University**
Clemson, SC *November 2019 - May 2022*

- Contributed to a peer-reviewed publication by developing a Markov model for predicting cancer cell combination therapy using Python and statistical analysis.
- Streamlined laboratory workflows by programming an Opentrons OT-2 robot via Python for automated tasks, saving researchers time and improving efficiency.
- Conceptualized and designed key functionalities for a novel high-throughput western blotting technique, resulting in an increase in processing speed compared to traditional methods.

Research Associate (Full Time) **The Hall Lab, NC State University**
Raleigh, NC *September 2022 - January 2024*

- Ensured accurate and informative data analysis for various experiments by utilizing linear regression, GraphPad, and Excel software, leading to clear and impactful presentations of research findings.
- Analyzed RNA sequencing data to reveal previously unknown downstream targets of C/EBPb in skin cancer cells, leading to valuable insights for future research directions.
- Discovered skin cancer therapeutic targets in the C/EBPb pathway through bioinformatic analysis and cell culture experiments, advancing treatment strategy development.

Technical Skills

Languages: Python, C, C++, HTML, CSS, SQL, LaTeX, Excel
Developer Tools: VS Code, Jupyter Notebooks, Git, GitHub
Frameworks/Libraries: Pandas, Flask, Scikit-learn, Seaborn, TensorFlow, Pytorch, NumPy, Matplotlib, SciPy, OpenCV