

# WESLEY MEREDITH

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## Education

### NC State University

*M.S. in Computer Science*

**Aug. 2023 – May 2025**

*Raleigh, NC*

### Clemson University

*B.S. in Biochemistry*

**Aug. 2018 – July 2023**

*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.

### 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

*Clemson, SC*

### The Birtwistle Lab, Clemson University

*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 Opentrons OT-2 robot 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)

*Raleigh, NC*

### The Hall Lab, NC State University

*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.
- Identified and validated novel protein targets within the C/EBPb pathway for potential skin cancer therapeutics, using bioinformatic analysis and cell culture experiments, contributing to the development of promising new treatment strategies.

## Technical Skills

**Languages:** Python, C, C++, SQL, Excel

**Developer Tools:** VS Code, Jupyter Notebooks, Git, GitHub

**Frameworks/Libraries:** Pandas, Scikit-learn, Seaborn, TensorFlow, Pytorch, NumPy, Matplotlib, SciPy, OpenCV