

# Mason Scott

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## EDUCATION

### University of Maryland

*Bachelor of Science in Computer Science - Data Science Specialization, Minor in Statistics*

College Park, MD

*Expected: May 2026*

## EXPERIENCE

### High Sierra Pools

*Pool Manager*

Frederick, MD

*May 2024 - Aug. 2024*

- Led team of lifeguards, organized daily operations, and coordinated emergency responses with EMS/police
- Demonstrated leadership, crisis management, and communication in high-stress situations

*Lifeguard*

*May 2022 - Aug. 2023*

- Monitored swimmer safety and performed water rescues when necessary
- Enforced safety protocols and assisted in daily pool maintenance

### Kumon

*Volunteer Tutor*

Urbana, MD

*Aug. 2017 - April 2018*

- Tutored young students on math and reading fundamentals
- Graded assignments and organized educational materials

## PROJECTS

### Impulse – Full Stack Music App (Prototype) | *React, Spring Boot, FastAPI, Docker, Redis, Celery, MySQL*

- Built a full-stack music recommendation system with containerized services using Docker Compose
- Designed and deployed a recommendation engine in FastAPI connected to Redis and Celery for background task processing
- Built frontend and backend layers to consume API data, serve user recommendations, and manage OAuth2 auth
- Orchestrated cross-service communication with health checks, CORS, and persistent database storage via Docker volumes

### Air Quality Predictor | *Python, StreamLit, TensorFlow, AWS, MySQL, OpenWeatherMap API, Plotly*

- Developed and deployed an LSTM-based air quality prediction model using TensorFlow, achieving a test RMSE of 0.1668, and integrated real-time data from the OpenWeatherMap API
- Built a scalable data pipeline using MySQL on AWS and created a user-friendly Streamlit web app for real-time air quality monitoring and predictions

### Mask Detection CNN | *Python, TensorFlow, Image Classification, TaiPy*

- Built and trained a CNN with TensorFlow to identify if a person is wearing a mask correctly, achieving 99.24% test accuracy
- Built TaiPy GUI for real-time image upload and predictions

### Data Analysis Report (CMSC320 Class Project) | *Python, Pandas, Matplotlib, Numpy, SciPy Stats*

- Statistical Analysis of Political Influence: Used Chi-square tests to identify how political affiliations affect moral judgments in Reddit AITA responses
- Data Processing and Visualization: Cleaned and categorized survey data, handled missing values, and created visualizations to highlight ideological differences

## TECHNICAL SKILLS

**Languages:** Python, C, Java, SQL, R, Rust, SAS

**Web:** JavaScript, HTML/CSS

**Frameworks:** React, Spring Boot, FastAPI, TensorFlow, Streamlit

**Libraries:** NumPy, Pandas, Scikit-learn, Keras, Plotly, Matplotlib

**Tools/Cloud:** Git, Docker, AWS, VS Code, Jupyter, PyCharm