David Kyle Rivera

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EDUCATION

University of Maryland, Baltimore County **Aug. 2019 - May 2023**
BS Computer Science, Minor in Statistics *Baltimore, MD*

- Magna Cum Laude, CSEE Departmental Honors; 3.8/4.0 GPA
- Marketing Organizer for hackUMBC Hackathon
- Culture Chair for Filipino-American Student Association

PROFESSIONAL EXPERIENCE

Atmospheric Lidar Group **Mar. 2022 - Present**
Software Engineer *Baltimore, MD*

- Developed an asynchronous email notification functionality that periodically contacts over 100 researchers using Celery and Redis.
- Created a download feature that allows users to sort and access over 10,000 standardized files per day at each ceilometer site, employing Django REST Framework and Redis, with JQuery and Bootstrap utilized for the front end.
- Dockerized the frontend and backend through an Ubuntu image, and utilized Compose to run containers as a single service

PROJECTS

Unified Ceilometer Network (http://ucn-portal.org)
MATLAB | C++ | Django | REST Framework | Bootstrap | Redis | Docker| AWS EC2, S3. Lambdas, Cognito

- Standardize and present data acquired from Ceilometer LiDAR sources across 50 EPA/NASA sites nationwide
- Incorporated advanced plotting techniques to enable data visualization, allowing for a concise and understandable representation of more than 10,000 daily files.
- Ensured seamless data accessibility for all users, simplifying the retrieval and analysis of information and promoting efficient data utilization across 1,000 standardized files

SkyCast (https://github.com/rivera-davidkyle/SkyCast)
Java | AWS Lambdas, S3, DynamoDB | Async | Google Maps SDK |Weatherbit API

- Android application that provides real-time updates on crucial weather metrics and displays real-time location through Google Maps SDK, with backend logic implemented through AWS Lambdas
- Utilizes GPS and accelerometer sensors with a dead-reckoning algorithm to accurately track and capture real-time location, effectively reducing power consumption by 27%
- Enhances performance by 88% through storing and caching weather data in AWS DynamoDB, enabling swift access to location-specific static information.

Chess (https://github.com/rivera-davidkyle/Chess)
React.js | Django REST Framework | Fetch API | Material UI

- Single-page application that simulates a chess game against a computer AI with difficulty level and timer
- Implemented Fetch API for client-server communication between the front end and the REST APIs
- Integrated Stockfish (Chess AI) into the Python backend to communicate optimal moves to the client side

SKILLS

Languages: C, C++, Python, Java, R, HTML/CSS, Javascript, Typescript, MySQL, MongoDB

Frameworks and Libraries: Django, Flask, React.js, Angular, Material UI, Bootstrap, Fetch API, Pandas, NumPy, Scikit-Learn, Matplotlib

Developer Tools: Git, AWS (S3, DynamoDB, Lambda, EC2, Cognito, API Gateway), Docker, Redis, Linux, VS Code, Android Studio, Postman, RESTful APIs, NoSQL

Competencies: Agile Methodologies, Object-Oriented Design, Microservices Architecture, API Development