# 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 integrated both containers as a single service through Compose

## 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
- Leverages optimized utilization of GPS and Accelerometer sensors, combined with a precise dead-reckoning algorithm, to track real-time location, resulting in a notable 27% reduction in power consumption
- Stores and caches weather data in AWS DynamoDB based on location, improving performance by 88%

**Chess (https://github.com/rivera-davidkyle/Chess)**
*React.js | Django REST Framework | Fetch API | Material UI*
- Developed and implemented a high-performing single-page chess application, featuring an advanced AI with adjustable difficulty levels and a built-in timer, offering users an immersive and challenging gaming experience
- 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, SQL
**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