

David Kyle Rivera

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EDUCATION

University of Maryland, Baltimore County

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

SKILLS

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

Frameworks: Django, Flask, React.js, Angular.js

Developer Tools: Git, AWS, Docker, Redis, Linux, VS Code, Android Studio, Postman

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

EXPERIENCE

Atmospheric Lidar Group

Mar. 2022 - Present

Software Engineering Intern

Baltimore, MD

- Implemented an SMTP functionality that periodically contacts over 100 researchers using Celery and Redis.
- Created a download feature that allows users to access over 5000 files per day at each ceilometer site, employing Django REST Framework and Redis, with JQuery and Bootstrap utilized for the front end.
- Utilized Docker Compose to seamlessly connect the containers of the Django API backend and the frontend, resulting in a 30% reduction in initial testing time and improved development efficiency.

PROJECTS

Unified Ceilometer Network (<http://ucn-portal.org>)

- Created and deployed a robust system utilizing Django, C++, MatLab, and Redis to effectively store, standardize, and present data acquired from Ceilometer LiDAR sources across 50 EPA/NASA sites across the country.
- Incorporated advanced plotting techniques to enable data visualization, allowing for a concise and comprehensible representation of more than 1000 daily files.
- Ensured seamless data accessibility for all users, simplifying the retrieval and analysis of information and promoting efficient data utilization across 1000 standardized files

SkyCast (<https://github.com/rivera-davidkyle/SkyCast>)

- Provides real-time updates on crucial weather metrics and real-time location through Java by seamlessly retrieving data from the Weatherbit API using AWS Lambdas and API Gateway.
- Employs 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 DynamoDB, enabling swift access to location-specific static information.

Chess AI (<https://github.com/rivera-davidkyle/Chess>)

- Developed a Chess application using React.js for the frontend and Django REST API for the backend, providing a seamless user experience.
- Implemented fetch to efficiently call REST APIs, ensuring smooth communication between the frontend and backend components.
- Integrated stockfish, a powerful Chess computer AI, into the Python backend, enabling challenging gameplay for users, and included customizable ELO rating and timer functionalities for both players, enhancing the overall gaming experience.

IT Ticketing Website (<https://github.com/rivera-davidkyle/IT-Ticketing-System>)

- Built a user-friendly helpdesk portal using the Django Framework, enabling users to seamlessly create, update, or delete tickets for efficient issue management.
- Developed an integrated SMTP feature to automatically send confirmation emails to users upon ticket submission, ensuring clear communication and acknowledgment of their requests.
- Incorporated a secure login/logout and user registration system to enhance data privacy and enable personalized user experiences within the helpdesk portal.