David Rivera

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PROFESSIONAL EXPERIENCE

Hughes Network Systems, LLC **Jun. 2023 - Present**
MTS 1 - Software *Gaithersburg, MD*

- Reduced cost of deploying installer bundles by 50% by minimizing file size by utilizing various compression algorithms within embedded systems
- Improve customer experience by developing a robust user interface detailing embedded applications through Angular and C++
- Contributed to developing a management embedded software by producing new features and optimizations programmed in C++ and Python

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

- Cut back costs for client data transfer by 40% by improving client-side executable through optimizing API calls and asynchronous task scheduling
- Improve user accessibility for over 10,000 standardized files by creating a download feature employed through Django REST Framework and Redis.
- Enhance user support for over 200 researchers by implementing an email notification feature built-in Celery and an SMTP protocol implemented in Django

PROJECTS

Unified Ceilometer Network (http://ucn-portal.org)
MATLAB | Django | REST Framework | Bootstrap | Redis | Docker | AWS EC2 | Apache

- Contribute to developing a web application that standardizes data acquired from various ceilometer sites nationwide through a microservice architecture hosted in Apache and EC2
- Provide a robust representation of continuous data stream by incorporating advanced plotting techniques through MATLAB and matplotlib

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

- Built an application that provides real-time updates on weather metrics and displays real-time location through Google Maps SDK and Lambdas/API Service
- Decreased power consumption by 27% in tracking real-time location by efficient utilization of GPS and IMU by using a dead-reckoning algorithm accompanied by a band-pass filter
- Optimized retrieval of weather data by 88% through caching based on location with the use of DynamoDB, S3, and geospatial computations

EDUCATION

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

- 3.8/4.0 GPA
- Magna Cum Laude, CSEE Departmental Honors

SKILLS

Languages: C, C++, Python, Java, HTML/CSS, Javascript, Typescript, SQL
Frameworks and Libraries: Django, Flask, React.js, Angular, Material UI, Bootstrap, Fetch API
Developer Tools: Git, AWS, Docker, GDB, Redis, Linux, Android Studio, Postman, RESTful APIs, NoSQL
Competencies: Object-Oriented Design, Microservices Architecture, API Development