Jesus Montero

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Education

Northwestern University, Evanston, IL   September 2020-August 2024

Bachelor of Science in Computer Science

Skills

Languages: Python, C/C ++, C#, HTML, CSS, JavaScript, TypeScript, SQL

Technologies & Tools: AWS, EC2, S3, React, Firebase

Experience

Agile Software Development, Evanston, IL   March 2023 – June 2023

• Study Buddies: Engineered a streamlined student matching system by developing a React and Firebase-based application, which improved study collaboration based on the schedules and preferences of users. Worked with a team of seven to create a seamless user interface and reliable backend, focusing on user-centric design and minimal viable product development.

• OnSite: Developed a React web application for Poatek, integrating the company's API to display employee status, which facilitated efficient meeting planning in a hybrid work environment. Focused on creating a clean, user-friendly interface and maintained clear client communication, enhancing stakeholder satisfaction and ensuring project alignment with realistic expectations.

Scalable Software Architecture, Evanston, IL   September 2023 – December 2023

• Launched a multi-tier cloud-native application (PhotoApp) using AWS EC2, S3, and RDS, incorporating a Node.js and Express-based web service layer to handle API interactions for user and image management. Created a Python client to interact with the web service, enhancing security and modularity by managing access through the service layer. Deployed the web service with AWS Elastic Beanstalk, streamlining the provisioning of EC2 instances and exposing APIs to external clients.

• Designed a serverless, event-driven cloud application using AWS Lambda, S3, and RDS, automating PDF analysis through triggered Lambda functions that manage file uploads and database updates. Configured API Gateway to handle user interactions and job status tracking, enhancing system scalability and ensuring real-time data processing

Northwestern Formula Racing, Evanston, IL   October 2023 – July 2023

• Led software development for temperature and wheel boards in a Data Acquisition Systems (DAQ) role, normalizing sensor data and integrating it with the Controller Area Network bus. Coordinated with the DAQ hardware team for testing ESP32 microcontrollers with various sensors using C++ and Platform.IO, ensuring successful data transmission with the TSMaster program. Additionally, trained two new team members in C++ fundamentals, GitHub version control, and Platform.IO setup, dedicating 4-6 hours per week to collaboration and system integration.

Microprocessor System Design, Evanston, IL   September 2023 – December 2023

• Collaborated with a peer to construct a multifunctional alarm clock by integrating an LCD screen, heartbeat sensor, and joystick with custom driver code in C++ to ensure the alarm could only be turned off by completing tasks such as reaching a target heart rate, answering trivia questions, and memorizing joystick patterns, while also managing budget constraints and project timelines for purchasing and receiving components.