TEXAS A&M UNIVERSITY

Mauro P. Guerrero

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Education:

B.S. in Computer Engineering – Texas A&M University	Expected Graduation – **May 2022**	**GPA: 3.87**

Work Experience:

Google Software Engineering Intern (Remote, Mountain View, CA | Media Platform Team)   Summer 2021

- **Queryset Storage in Data Warehouse**

  o Designed a new internal database schema to store information about querysets and integrated it with existing tables, with a focus on storing data about topsets, which are querysets containing popular entities.

  o Spearheaded and led multiple design reviews to present and gather feedback for the new database schema design.

  o Collaborated with teammates to coordinate a timeline and tasks for the implementation of topsets, a new major queryset type that focuses on utilizing popular entities rather than just random ones.

  o Updated queryset generation **ETL** pipeline/flow to support new database schema, consequently allowing the flow to insert queryset and query information to the database. Resulted in a centralized database for storing outputs from the provider on-boarding pipeline.

- **Query Rewrite Automation**

  o Migrated old and obsolete SQL code for query generation to new C++ lambda standard and increased the test coverage of unit tests.

  o Implemented automated user test queries on Google Search and Assistant evals for TV and film media, using the **Stubby RPC** framework and **MapReduce** to gather millions of real-world user query data, with the goal of generating the most relevant and popular queries to test media triggering, thus, resulting in the automation of eval results across hundreds of providers.

  o Coordinate with multiple teams across Google Search to add additional data to the queryset generation **ETL** pipeline, which increased the robustness of evals, and quality of provider data being ingested into **Google Knowledge Graph**.

Google STEP Intern (Remote, Pittsburgh, PA| Shopping Assistance Team)   Summer 2020

- **BookBook – A Social Media Website for Book Clubs**

  o Collaborated with coworkers to create and design a web application called **BookBook**, which allows users to create and manage book clubs, search for books, and store books they wish to read in a booklist.

  o Led the **DevOps** of the project by setting up the **React frontend** and **Java Servlets backend** integration, and the deployment procedures for our project using **App Engine Microservices**.

  o Developed the Login and Landing Page using **Google OAuth 2.0**, and designed the Navbar, Sidebar & Home Page.

  o Implemented the BookList feature of the web app allowing users to create booklists, search for books, and add them to a booklist. Developed using **Google Firestore** as the project's database, Bootstrap and Material UI.

- **Portfolio Website**

  o Developed a personal portfolio website using web technologies **(JS, HTML, CSS)**, **Java Servlets** and **Google Datastore**. The website also utilizes the **Google Maps** and **Geocoding APIs** to implement a geography mini game.

Google EP Internship (Sunnyvale, CA | GCP Enterprise Sign-In Team)   Summer 2019

- **Developing the Test Identity Provider (Idp)**

  o Developed the Test Identity Provider's metadata using **OpenSAML 2.0**, an open-source library used for exchanging authentication and authorization data between parties.

  o Implemented the ability to update the current Idp's credentials, allowing admins to upload new public and private keys. Developed using OpenSAML and Google's framework and injector tools.

  o Encrypted the SAML response of the Idp using the Service Provider's public key via OpenSAML encryption tools.

Personal Projects:

Face Detection
- A C++ program that utilizes **OpenCV** to detect human faces. The program uses OpenCV's default face data to train a Cascade Classifier to detect faces accurately.

Particle Effect
- A C++ program that uses the **SDL 2.0** library to create a particle effect animation.

ChessWeb3D – WIP
- A web application that enables users to play online chess, using **Angular** and **BabylonJS**.

Skills:

Programming Languages					Technologies			
Java	C/C++	JavaScript	SQL		React	Angular	PostgreSQL	NoSQL
Python	R	Verilog	MATLAB		SDL 2.0	OpenCV	BabylonJS	SAML 2.0