

# Gilberto Arellano Lopez

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## EDUCATION

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**Chapman University** | Orange, CA

May 2024

Bachelor of Science – Software Engineering, Minor: Analytics

**Relevant Coursework:** Machine Learning, Database Management, Data Structures, Software Principles & Design, Business Analytics, Operating Systems

## PROJECTS

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**Personal Portfolio Website** | TypeScript, React, Next.js, PostgreSQL, Vercel, API Development

July 2024

- Designed and implemented a responsive portfolio website using Next.js, Tailwind CSS, and TypeScript, showcasing projects, work experiences, and interactive data visualizations with Tremor Area Chart components.
- Developed and integrated CRUD operations with PostgreSQL, enabling user info logging, weekly cron jobs for visitor summaries, and dynamic data fetching and display, enhancing user engagement.
- Optimized page load times by implementing static rendering and skeleton screens during data fetching, resulting in a smoother user experience and significant performance improvements.
- Deployed on Vercel, utilizing speed and web packages to track and optimize site performance, and created custom hooks and components to modularize development and maintain code quality.

**Natural Language Processing** | Python, NLTK, WordCloud, TensorFlow/Keras, Data Visualization

May 2023

- Fine-tuned a GPT model to mimic the lecturer's speech patterns, demonstrating transfer learning capabilities.
- Trained a local LSTM model using Keras as a comparison to the GPT model.
- Conducted a comparative analysis of the LSTM and GPT models, providing insights into their relative strengths and weaknesses for text generation tasks.
- Utilized NLTK for text tokenization and stop words removal, WordCloud for visualizing word frequencies, and Matplotlib for data visualization.
- Processed and transformed large datasets, ensuring suitability for machine learning applications.
- Developed data pipelines for scalable data processing and visualization.

**Academic Advising Software Tool** | TypeScript, React, Next.js, PostgreSQL, AWS EC2, Vercel

May 2024

- Developed a scalable academic advising tool with a responsive design, handling CRUD operations via RESTful APIs.
- Implemented robust unit and integration tests using Jest, with code quality monitored by SonarQube.
- Deployed the backend on AWS EC2 and the frontend on Vercel, ensuring seamless integration and high availability.

**Sash Solutions - Window Quote/Estimate Calculator** | C++, OOP, Software Documentation

May 2023

- Designed and developed a quote/estimate calculator resulting in a 90% reduction in quote calculation time and providing customers with a clear and comprehensive breakdown of the project cost.
- Created and maintain a comprehensive documentation website for the project, facilitating ease of use and future enhancements.

## PROFESSIONAL EXPERIENCE

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**Operations and Technology Administrator** | Gilberto Arellano Windows, San Francisco

Jan 2012 - Present

- Designed and developed a program written in C++ to calculate window quotes based on measurements, wood, glass, and window type, which reduced the quote calculation process by over 80%.
- Involved in systems design and development of safety-critical code.
- Created and maintain a CRM dashboard on Monday, project management software, to organize client projects, ensuring timely delivery and effective communication with clients.

## TECHNICAL SKILLS

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**Programming Languages:** C++, Python, Typescript, PostgreSQL/MySQL

**Technologies & Skills:**

NLTK, Feature Engineering

Next.js, RESTful APIs

TensorFlow/Keras

AWS, Vercel

Jest, SonarQube

Pandas, Matplotlib

Unix/Linux, Git

**Spoken Languages:** English – Fluent, Spanish - Fluent