

# William Phong

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## EDUCATION

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### California State University San Marcos

August 2024

*Bachelor of Science in Computer Science*

- **Honors:** Cum Laude, Deans List Spring 2023 & 2024

## PROJECTS

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### VR Earth Orbit Simulation

- Solved an educational issue explaining astrological concepts by providing a visual, hands-on VR experience
- Collaborated with Dr. Kostadinov to implement research on Earth's orbit, Milankovitch cycles, and insolation
- Developed mathematically accurate real-time simulations and data calculations in C# for orbits and sun insolation

### Spotify Day List Word Cloud

- Provides users automatically generated word clouds over time based on Spotify day list titles
- Word cloud is created with Python, Matplotlib, and shows words weighted by occurrence
- Utilizes Spotify API for OAuth 2.0 code flow to obtain user information, JSON data stored in a PostgreSQL database

### Formula1 Result Prediction Algorithm

- Uses linear and multinomial regression formulas written in Python to predict results based on qualifying data
- Data is imported/exported to a PostgreSQL database

### Portfolio Website

- Written using Next.js with Typescript and deployed using Vercel
- Implements NextAuth for Spotify Authentication code flow, providing front-end to Spotify Daylist Word Cloud

### Discord Bot

- Created a responsive Discord bot used in servers with over 200 users
- Deployed 24/7 on a Linux machine using Docker, utilizes YouTube-DL and FFmpeg to play audio
- Integrates word cloud project functionality with commands

### Student Portal Application

- Interviewed faculty admin and students of CSUSM to determine a customer story and requirements
- Conducted agile and scrum scheduling, wrote SRS and project documentation
- Developed front-end app with Java and Android Studio
- Implemented MySQL database and connector to communicate data and SHA256 to encrypt user data

## WORK EXPERIENCE

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### High School Debate Coach and Judge

Aug 2019 – Present

*Torrey Pines High School, Advanced Technologies Academy, Potomac Academy*

*Local and National Circuit*

- Developed curriculum modules and preparation documents specialized for individual students and groups of 3-8
- Coordinated with high schools, colleges, and staff for tournament logistics

### Math and Reading Tutor

Aug 2022 – Jan 2023

*Kumon*

*San Diego, CA*

- Assisted dozens of students daily by assessing their individual needs and learning styles
- Processed data for student information database

### Team Member

Aug 2021 – Jan 2022

*Einstein Bros. Bagels*

*San Diego, CA*

- Efficiently processed transactions and exceeded customer experience expectations based on feedback/reviews
- Trained new employees with use of point of sales system and day-to-day protocols

## SKILLS

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**Languages:** C++, C#, Python, Java, SQL, JavaScript, HTML, CSS, Typescript

**Frameworks:** React, Node.js, Matplotlib, Pandas, jQuery, Flask, Django, JUnit

**Developer Tools:** Git, Amazon Web Services, Google Cloud, Vercel, Docker