William Phong

williamphong10@gmail.com | linkedin.com/in/williamphong | waphong.com | github.com/williamphong

EDUCATION

San Diego State University   Aug 2025 – May 2027
Master of Science in Computer Science

California State University San Marcos   May 2024
Bachelor of Science in Computer Science
- **Honors**: Cum Laude, Deans List Spring 2023 & 2024

EXPERIENCE

Graduate Research Assistant   Sep 2025 – Present
SDSU Research Foundation   *San Diego, CA*
- Developing the iCharm climate analysis interface, incorporating over 200 GB of NOAA datasets for 3D-visualization and statistical analysis
- Designed and built responsive front-end using Next.js, React, TypeScript, Tailwind CSS, and Cesium.js
- Architected data pipeline through ZARR/NetCDF files, PostgreSQL, Docker, Python, FastAPI, and Drizzle
- Implemented kerchunk-based caching, reducing analysis runtime by 90% (20s to 2s)

Graduate Research Intern   Sep 2025 – Present
Pisces Lab @ SDSU   *San Diego, CA*
- Building an agentic digital-twin system for smart city traffic using CARLA and Ruth simulators
- Integrated Google Gemini for natural language translation, autonomous entity control, and inferencing
- Constructed front-end displaying simulation data using Next.js/React, TypeScript, and Tailwind CSS

Data Science Intern   Jun 2025 – Aug 2025
Tensor Therapeutics   *San Diego, CA*
- Accelerated drug discovery processes using Boltz-2 to predict for RNA structures and molecular interactions
- Deployed a scalable variant calling pipeline using Nextflow Sarek and Docker for genomic data analysis
- Configured, managed, and scaled virtual machines on Azure and Lambda.ai, implementing secure networking

PROJECTS

VR Earth Orbit Simulation
- Collaborated with Dr. Kostadinov to implement research on Earth's orbit, Milankovitch cycles, and insolation
- Developed model in C# to generate mathematically accurate real-time simulations and data calculations
- Provides an intuitive, hands-on VR environment for teaching complex astronomical concepts

Spotify Day List Word Cloud
- Generate word clouds over time based on Spotify day list titles, displays words weighted by occurrence
- Utilizes Spotify API for OAuth 2.0 code flow to obtain user information
- Written with Python, Matplotlib, and uses AWS RDS Postgres DB to store JSON data

Formula1 Result Prediction Algorithm
- Implements machine learning algorithms in Python to predict results based on qualifying data
- Data is imported/exported to a Postgres database and visualized with Matplotlib

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
- Created application with Java and Android Studio with MySQL database and SHA256 hashing

SKILLS

Languages: C++, C#, Python, Java, SQL, TypeScript, JavaScript, HTML, CSS
Frameworks: React, Next.js, Node.js, Matplotlib, Pandas, TensorFlow, jQuery, FastAPI, Flask, Django, JUnit
Developer Tools: Git, Docker, Amazon Web Services, Google Cloud, Microsoft Azure, Cloudflare Pages