

Jeff (Hsuan-Fu) Hsu

Software Engineer | Backend, Full-Stack & Cloud Systems

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EDUCATION

University of Southern California

Master of Science in Computer Science

Los Angeles, CA

Jan 2026 - Expected May 2027

- Relevant Coursework: Analysis of Algorithms, Distributed Database Systems, Web Technologies

Arizona State University

Graduate coursework toward an M.S. in Computer Science; transferred to USC

Tempe, AZ

Sep 2025 - Dec 2025

National Taipei University

Bachelor of Science in Computer Science

New Taipei City, Taiwan

Sep 2020 - Jun 2024

EXPERIENCE

Tech-Management Workshop Co., Ltd.

Taichung, Taiwan

Software Engineer Intern

Jul 2026 - Aug 2026

- Independently designed and developed a government birth-grant module from procurement specifications, without access to legacy source code, using **C#/.NET 8**, **ASP.NET Core MVC**, and **Entity Framework Core**.
- Translated requirements into application and persistence workflows supporting dynamic QR-code generation, two-page A4 printing, and Taiwan national ID and eligibility validation for a system intended to serve 29 municipal offices using **SQL Server** and **Razor**.
- Secured, packaged, and deployed the module to the company intranet with server-side validation, **anti-forgery protection**, and **HTTPS/HSTS**; completed cross-browser and internal functional testing and resolved tester-reported defects.

National Taipei University

New Taipei City, Taiwan

Undergraduate Researcher - Advisor: Prof. Bor-Shing Lin

Jul 2022 - Feb 2024

- Collaborated in a three-contributor research team and owned the **Python** signal-processing and data-preparation pipeline that transformed raw embedded-device PPG signals into model-ready datasets.
- Implemented 0.5-10 Hz Bessel filtering, signal-quality screening, feature extraction and selection, and LOSO cross-validation; the dual-band regression model achieved 10.3% MAPE.
- Received a national undergraduate research fellowship and earned fourth place in a university project competition.

TECHNICAL SKILLS

Languages: C#, C++, Python, JavaScript, SQL

Frameworks: ASP.NET Core MVC, Entity Framework Core, Razor, Bootstrap, Node.js, Express, Flask, Vue.js

Cloud & Data: Google Cloud Platform (GCP), AWS, SQL Server, REST APIs, relational databases

ML & Graphics: NumPy, PyTorch, TensorFlow, OpenGL, GLSL, Blender

Tools & Security: Git, Docker, Linux, server-side validation, anti-forgery protection, HTTPS/HSTS

PROJECTS

Full-Stack Cloud Service Explorer | Node.js, Express, GCP | [Repo](#)

Jan 2026 - Jun 2026

- Built a responsive single-page application with **Node.js**, **Express**, and external **REST APIs**, including dynamic routing, search, favorites, and client-side state management.
- Migrated the backend from **Flask** to **Express**, implemented API aggregation and proxy routing, optimized pagination, and deployed through **GCP** environment configuration.

Online Judge Platform | Vue.js, REST APIs | [Repo](#)

Sep 2021 - Jan 2022

- Led a four-developer frontend team building a **Vue.js** interface with asynchronous submission tracking for a distributed code-evaluation platform.
- Defined **REST API** contracts with backend and dispatcher teams and improved the presentation and handling of large test outputs.

3D Rendering Engine | C++, OpenGL, GLSL | [Repo](#)

Sep 2023 - Dec 2023

- Built a custom **OBJ/MTL** parser and **OpenGL** rendering pipeline using **VAO/VBO** buffers, MVP transformations, texture mapping, and multi-light Phong-style shading.
- Used **Blender** to prepare 3D models and scene assets and implemented real-time material and lighting behavior with **GLSL**.

PUBLICATIONS

Hsuan-Fu Hsu et al., "Noninvasive Portable System With Dual Near-Infrared Light Technology for Monitoring Uric Acid Concentration," *IEEE Transactions on Human-Machine Systems*, accepted for publication, 2026.