Song-Ze Yu

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An engineer / A pianist (24 solo concerts, 70+ TV appearances) across Asia.

Education

University of California, Berkeley, Computer Science — **Berkeley, CA, USA**
- **GPA:** 3.9/4.0, **Advisor:** Prof. Carmine-Emanuele Cella (CNMAT Lab) — Aug 2025 – May 2026

National Tsing Hua University, B.S. in Computer Science — **Hsinchu, Taiwan**
- **GPA:** 3.91/4.3, **Advisor**: Prof. Liu Yi-Wen (AHG Music Lab) — Sep 2023 – June 2026

National Cheng Kung University, B.S. in Computer Science and Information Engineering — **Tainan, Taiwan**
- **GPA:** 4.16/4.3 (**Top 5**/113) — Sep 2022 – June 2023

Work Experience

Berkeleytime, Machine Learning Pod Lead & Full-Stack Engineer — Sep 2025 - Present
- Built **AI semantic search** (BGE+FAISS) as a FastAPI microservice within the Node.js/Docker stack.
- Reduced GraphQL **first-load latency from 25s to 1s** by implementing pagination and Redis caching.
- Shipped 20+ urgent PRs for BerkeleyTime, used by **78.6K** active users per month.

Positive Grid, Machine Learning Intern — Jun 2025 - Sep 2025
- Served as **Scrum Master** for **Amp-AI-SaaS**, agentic workflow and architecture for Positive Grid's next-generation products.
- Built two JUCE-based **VST plugins** and integrated my capstone audio-to-preset model via a PyTorch inference pipeline.
- Gaining exposure to approaches in **source separation** and Zero-Shot **Virtual Amplifier (VA) Modeling** in music industry.

Research Experience

Center for New Music and Audio Technologies lab, UC Berkeley, Research Lead — Aug 2025 - Present

InstructFX2FX: Text-to-Preset Generation with LLM Initialization and Human-in-the-Loop Gradient Refinement
- Formulated iterative refinement as directional optimization: parse feedback ("not A" / "more B"), embed A/B with **CLAP**, and update effect parameters along $\Delta = \mathbf{e}(B) - \mathbf{e}(A)$ via gradient descent (**AIMC 2026 submission planned**).

AHG Music Lab, National Tsing Hua University, Undergraduate Researcher — Jul 2024 - May 2025

From Sound to Setting: AI-Based EQ Parameter Prediction for Piano Tone Replication (VTR model)
- Built a **ReaScript**-generated dataset of piano recordings with varied multi-band EQ parameters.
- Trained a supervised **neural network** to predict EQ parameters from audio features (MSE: 0.0216).

Awards & Leadership

Claude × a16z × Berkeley M.E.T. Makeathon, Best Design – Berkeley, CA — Oct 2025

Meichu Hackathon 2024, 2nd Place (Google) – Hsinchu, Taiwan — Oct 2024

Taipei Hackathon 2024, 3rd Place – Taipei, Taiwan — Sep 2024
- Selected for integration into **Taipei official city app** with over **3 million downloads**, winning NT$100,000.
- Developed **ParkFlow**, a webview microservice provides real-time parking information, navigation, and notification.
- Invited back as a **guest speaker** to share insights on hackathon and collaboration experience with city government.

SITCON Hackathon 2024, 1st Place – Taipei, Taiwan — Jul 2024

Projects

Claude Code Remote (Open Source) | JavaScript, IMAP/SMTP — JessyTsui/Claude-Code-Remote
- Enhanced the notification system by adding execution trace, terminal-style email UI, and fixing urgent self-reply issues.
- Contributions were shared on X (Twitter), gaining **126K views and 800+ likes** from the open-source community.

VTR-SmartEQ | JUCE, C++, Python, PyTorch, ReaScript, Lua — vaclisinc/VTR-smartEQ
- Built a JUCE-based VST plugin integrating the **VTR** audio-to-preset model for real-time EQ parameter prediction.

Skills

Python, PyTorch, Full-stack(HTML, CSS, React, Vue, Vite), Docker, Flutter, FastAPI, JUCE, C++, JavaScript, Dart, Verilog