Song-Ze Yu

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An ML researcher / 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. Trevor Darrell (BAIR lab), 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

Research Experience

Berkeley AI Research (BAIR) Lab, UC Berkeley, Researcher — Feb 2026 - Present

Anamnesis: An Open-Source Platform for Large-Scale Backstory-Conditioned Survey Simulation (ACL 2026 Demo, under review)

Song-Ze Yu, Joseph Suh, Yutong Bai, Serina Chang, David M. Chan.

- Built a scalable platform for demographically controlled multimodal survey simulation and virtual population studies.
- Achieved closer alignment to ground-truth population distributions than individual human responses on ATP surveys

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

InstructFX2FX: Text-to-Preset Generation with LLM Initialization and Human-in-the-Loop Gradient Refinement

- Proposed a hybrid system that leverages the semantic strengths of LLMs and the editability of gradient-based optimization.
- Enables iterative sound editing by translating natural language feedback (e.g., “less bright”, “more warm”) into directional updates in CLAP embedding space. (DAFx 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 **R**eaScript-generated dataset of piano recordings with varied multi-band EQ parameters.
- Trained a supervised **neural network** to predict EQ parameters from reference audio DSP features (MSE: 0.0216).

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 **122K** 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.

Awards & Leadership

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.

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

Projects

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