Shengqi Yuan

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Objective: Software development, full-time (Fall 2027), internship (from January)

Education

University of California, San Diego M.S. in Computer Science and Engineering, GPA 4.0/4.0 — **Sep 2025 – 2027**

Wuhan University B.Eng. in Computer Science and Technology, GPA 3.87/4.00 — **Sep 2021 – Jun 2025**

University of California, Berkeley Berkeley Global Access Program, GPA 4.0/4.0 — **Aug – Dec 2023**

Projects and Research

Intelligent Computing Systems Lab (ICSLAB), Wuhan University — **Aug 2024 – Jun 2025**

Research Assistant, advised by Prof. Dazhao Cheng — FPGA, Quantization, Scheduling

- Simplified non-linear Transformer operators with low-order polynomial approximation and quantization.
- Modeled operator scheduling as integer nonlinear programming, solved by dynamic programming.
- Measured in simulation that the best static configuration took 18.39% longer than the DP schedule.
- Lead-wrote, on the PI's behalf, the NSFC Young Scientists Fund (Category C) proposal.

Closed-Loop Waypoint Navigation for a Mobile Robot, UC San Diego — **Sep 2026 – Present**

Project Lead — ROS 2, Python, serial communication, AprilTag

- Designed closed-loop navigation on existing camera and AprilTag nodes, with EKF updates after each move.
- Added a fine spin calibration level that cut the robot's smallest executable turn from about 24° to 3–5°.
- Validated ROS-free logic offline (93 test cases, simulated rover) and on the robot (24 archived runs).
- Ongoing: the next three stages are Kalman-filter SLAM mapping, path planning, and system integration.

Probing Music-Theory Concepts in a Text-to-Music Diffusion Model, UC San Diego — **May – Jun 2026**

Technical lead — PyTorch, Hugging Face

- Trained linear probes on VAE latents and, in a 17-run layer and timestep sweep, on UNet activations.
- Reached 0.88 chord-type accuracy (chance 0.25), while pitch stayed near chance against a 0.72 chroma control.
- After Mustango, led the choice of MusicGen as the follow-on model; owned its fine-tuning and pipeline.

Linear Regression versus Linear Mixed Model for GWAS, UC San Diego — **Jan – Mar 2026**

Independent technical support — Python, PLINK, GCTA

- Wrote the pipeline driver, which halts at a failed stage and lets the user retry or skip it.
- Compared PLINK regression with a GCTA mixed model on 1000 Genomes CHB chromosome 22.
- Simulated a quantitative trait from 20 known causal variants to give the comparison a ground truth.

XPath and XQuery Engine (Apr – Jun 2026): Java evaluator on ANTLR 4 with hash-join rewrite.

Alumni Platform (Sep – Nov 2024): Built REST APIs and front-end pages; ran Tencent Cloud deployment (ASP.NET, C#, Vue).

Skills

Technical Areas	Robotics software, visual localization, serial communication, model quantization, scheduling
Programming	Python, C/C++, C#, Java, SQL, JavaScript
Tools	ROS 2, PyTorch, Hugging Face, ASP.NET, Vue, Visual Studio, MySQL, pyserial, Git
Languages	English (TOEFL 104), Mandarin (native)

Honors

National Olympiad in Informatics in Provinces (NOIP), First Prize, Shanxi (ranked 10 of 293) — 2019

Luojia Excellence International Exchange Scholarship, Wuhan University (RMB 50,000) — 2024

CCF Certified Software Professional (CSP), top 10%