

Amarjargal Ayurzana

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Education

Bachelor of Science, Computer Science

Expected Dec 2027

San Jose State University

GPA 3.7/4.0

- **Coursework:** Data Structures and Algorithms, Object-Oriented Design, Database Management Systems, Operating Systems, Computer Architecture, Information Security, Computer Paradigms
- **Activities:** Trainer, Competitive Programming Club; ICPC Competitor; TA for C++, Assembly, Java DSA

Achievements

- **Competitive Programming:** International Collegiate Programming Contest (ICPC) North America Championship 2026 — **27th**; PacNW Regional 2025 — **8th**; Codeforces Candidate Master; LeetCode top 1%

Projects

CP Trainer – competitive-programming platform | Next.js, FastAPI, PostgreSQL, Neon, Railway Jul 2026 – present

- **Gamified** practice for **3** school clubs (**30** users) with **Next.js**, **shadcn**, and **Claude**-assisted design
- Wrote custom algorithms scoring **~2,000** submissions per user across **8** skills by date and difficulty to tailor practice
- Cut new-user onboarding **20 min** → **~2 sec** by batching imports into **3** bulk **PostgreSQL** INSERT statements
- Kept contest calendars current, **100+** contests pulled to date, with a daily **Railway** cron worker on the **Clist API**

Personal Assistant – agentic voice assistant | Agentic AI, Python, GCP, Chroma, LLM Jun 2026 – present

- Added **Gmail API** (**Google Cloud**) tools so the agent logged **50+** **Schwab** trades to **SQL** and analyzed them
- Enabled **semantic search** over notes with **Chroma**, so the user asks for a note instead of scanning a screen
- Cut LLM input cost **90%** with **prompt caching**, billing only new turns instead of 40+ messages per request

Tablo – AI restaurant operations platform | Next.js, Anthropic API, SQL, Shadcn Jul 2026

- Cut restaurant onboarding **30 min** → **20 sec** by extracting **structured menu** from photos with **Claude vision**
- Cut dashboard load **3.3s** → **60ms** by caching and aggregating **10K** rows server-side instead of in the browser

Work Experience

Research Intern

Jul 2024 – Sep 2024

Stanford Zeitler Circadian & Sleep Lab

Palo Alto, CA

- Unblocked full-cohort analysis by imputing **8%** missing/faulty fields across **~1,800** patient records in **Pandas**
- Correlated **10M** actigraphy entries from **554** participants, plotting in **Matplotlib** that fragmentation rose with light

Back-end Engineer — Video Streaming Platform

Jun 2023 – Aug 2023

Playmo

Ulaanbaatar, Mongolia

- Automated **cron-job** reports on feature usability and trending from **1M+** daily user interactions in **BigQuery**
- Cut video load **3 min** → **1.2s** by splitting 1-hour videos into thousands of 1–5s segments with cross-server handoff
- Cut API response time **93%** (86ms → 6ms) with **Redis** caching on high-demand endpoints

Software Engineer — Dynamic Survey Platform

Jun 2022 – Nov 2022

SteppeLink LLC

Ulaanbaatar, Mongolia

- Modeled a **directed acyclic graph** of prerequisites, rejecting cycles that deadlock the form
- Exposed **6%** of responses as unattended with a **topological-sort** shuffler randomizing question order
- Split tangled **NestJS** controllers into a service layer, shrinking **1,500** lines to **600** and isolating bugs to one service

Leadership & Activities

President

Jan 2024 – Jun 2025

Competitive Programming Club, De Anza College

Cupertino, CA

- Revived the club into **3** two-hour algorithms sessions a week, 10 weeks a quarter, with **15** regular attendees
- Drew **180+** students to **3** speaker series with **Google** guests and mock interviews
- Registered **10** teams for **ICPC PacNW** regionals through classroom visits, flyers, and department emails

Technical Skills

Languages: Python, TypeScript, JavaScript, C/C++, Java, SQL

Back-end: NestJS, Node.js, FastAPI, REST APIs, Redis, PostgreSQL, BigQuery, Google Cloud, Pandas

Front-end: Next.js, React, TypeScript, Server-side rendering, Component reusability, Web performance optimization

AI & LLM Systems: LLM, AI agents & tool-use, Context engineering, Prompt caching, RAG, Fine-tuning