# Buyan Khurelbaatar

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## **EDUCATION**

## San Jose State University

San Jose, CA

B.S in Software Engineering, Mathematics

Graduate in May 2027

#### Experience

#### Research Assistant

July 2025 – September 2025

Stanford University: Structural Biology / Levitt Lab

Stanford, CA

- Contributed to PDBCleanV2 python library
- Implemented chain ID standardization and residue renumbering using sequence alignment (MUSCLE v5) to generate consistent PDB datasets

## Backend / Data Engineering Intern

June 2024 – August 2024

ONDO LLC

Ulaanbaatar, Mongolia

- Developed a Fastify-based logger that collected and unified logs from 13 microservices, improving monitoring and troubleshooting across the telecom platform
- Built a pipeline that processed 2 TB of log data per day and stored it in a data warehouse, enabling scalable analytics and reporting

## Graphic Designer, Event Coordinator

Feb 2024 – June 2025

Foothill College

Los Altos Hills, California

• Worked as a graphic designer in the marketing team, created over 1000+ designs for events and clubs

#### Projects

## Cowabunga IDE |

• 2D open world infinite canvas, codebase as flow diagram that lets user build using instructions (vscode fork)

## GoTN - Graph of Thoughts Network

- MCP server breaks down prompts into micro prompts graph tree, and finds the best path to reduce hallucination
- Visual, auditable trail of AI decision-making. Features the Path Registry system, which allows users to discover, download, and install approved reasoning paths

**TeelCode** | React, Supabase, Node, Tailwind, Full Stack Development

Personalized LeetCode-like interface with spaced recall, ratings, memory tracking and AI-guided problem chats

## Clarity

• App that creates a daily time block schedule based on the user's long-term goals and their intention for the day.

### Transformers from scratch

• Transformers built from scratch, multi-head attention mechanisms and positional encoding for natural language processing tasks (Implemented from "Attention is all you need" Paper

## Multi-Head Latent Attention (MLA) built from scratch

• Implemented MLA mechanism introduced in the DeepSeek-V2 paper

#### Cooking College

• Web app that parses syllabus and notes to generate spaced repetition quizzes, custom learning roadmaps, and AI-powered flashcards. Uploads documents, generates questions, and returns results

## Threat Tracker

• iOS/Android app that visualizes threat zones based on scraped local news, reports, and user-submitted data; uses LLMs to extract coordinates and assign danger level scores.

## Technical Skills

Languages: Java, C++, Python, SQL, JavaScript, Dart, Data Structures

Web Dev Frameworks: React, React Native, Flutter, Next.js, Tailwind, Flask, Django, Node, Redux, GraphQL Machine Learning, AI: PyTorch, Deep Learning, Transformers, NLP, Pandas, NumPy, Matplotlib, OpenCV Data, Backend: SQL, NoSQL, MongoDB, Pinecone, FastAPI, Snowflake, Supabase, REST APIs, WebSockets Relevant Activities: 20+ Hackathons experience, 5 times winner