

Shenggang Ding

+1 (213) 913 0327 - shenggan@usc.edu - www.linkedin.com/in/shenggang-ding - <https://github.com/GavinSGDing>

EDUCATION

University of Southern California

Bachelor of Science in Computer Science & Applied Mathematics

Los Angeles, CA, USA

August 2023 – May 2027

- GPA: 3.91
- Relevant Coursework: Data Structures, Artificial Intelligence, Machine Learning, Software Engineering, Computer System, Operating System, Internetworking, Linear Algebra, Probability & Statistics, Numerical Methods, Optimization
- Achievements: Presidential Scholar of the University of Southern California (half ride), 2 times Academic Achievement Award, Dean's List all semesters

TECHNICAL SKILLS

Programming Languages: Python, C++, C, C#, Java, Javascript, HTML, CSS, MySQL, Matlab

Libraries and Tools: PyTorch, Sklearn, Pandas, Numpy, Git, Docker, kubernetes

EXPERIENCE

Software Engineer Intern - Predictive Analytics & Data Engineering Team

BreathelIT Solutions, Minnesota, USA (Remote)

February 2025 - April 2025

- Engineered a synthetic-data generation workflow and produced more than 10 representative datasets for MVP iterations, reducing dependence on real-world data collection by 30% and accelerating model experimentation
- Deployed, monitored, and iterated on 10+ forecasting models for user well-being signals (e.g., sleep duration, work hours), maintaining around 90% predictive accuracy
- Built lightweight model-performance monitoring (data quality checks, error tracking, and regression alerts) to detect drift and shorten issue triage for the analytics team
- Developed an interactive analytics dashboard that exposed real-time trends and cohort breakdowns for product owners, reducing feature-prioritization turnaround by 20%

Algorithm Developer Intern - Department of Innovation

Transwarp, Shanghai, China

June 2024 - August 2024

- Designed 2 end-to-end ML pipelines for Chinese equity trend forecasting (data preprocessing → feature engineering → training → backtesting), achieving IC > 0.1 and improving backtested Sharpe ratios by 15%
- Created a hybrid genetic-algorithm + ML feature-selection framework to expand the factor universe from 600 to 800+, improving selection quality and lifting out-of-sample return prediction accuracy by 10%
- Implemented and optimized 120 high-frequency alpha factors with a focus on computational efficiency and reproducibility, contributing to a 5% increase in portfolio backtest returns
- Partnered with researchers to validate signal robustness across time splits and market regimes, strengthening generalization and reducing overfitting risk in offline experiments

PROJECTS

- **PersonaWeave:** Generative AI multi-agent social simulation platform for computational social science. Built an LLM-driven framework inspired by Stanford Generative Agents, enabling autonomous social-dynamics modeling with psychologically-grounded agent personas. Implemented Big Five (OCEAN) and Dark Triad trait conditioning (87% correlation between trait scores and observed behavior) with a FAISS-based memory system with temporal decay supporting 3,000+ concurrent agents with <100ms retrieval, and a “silent arbiter” turn-taking policy that maintained balanced participation (Gini < 0.3) without human moderation.
- **Kanting:** AI-powered real-time lecture capture platform that records, transcribes, and summarizes live presentations with automated slide detection. Built a full-stack system for browser-based audio/video streaming with reconnection handling; implemented OpenCV+SSIM slide-transition detection to extract keyframes in real time; compiled streamed WebM chunks into MP4 via FFmpeg and stored artifacts in AWS S3 with presigned URLs and live broadcast to viewer clients.
- **AnchorNotes:** Context-aware Android note-taking app with location and time-based smart reminders. Built an Android client with a Spring Boot REST backend, PostgreSQL, and JWT auth. Key features include geofence triggered notifications, Markdown editing, media attachments, and one-tap PDF export for shareable notes.
- **TravelSnap:** Mobile travel journaling and planning app that consolidates photo journals, geotagged notes, and collaborative itinerary planning into a shareable timeline/map experience. Emphasizes fast capture, organized trip memory, and social sharing for individuals and groups.