Caden Cheng

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Education

University of California, San Diego — La Jolla, CA
B.S. in Computer Science and Mathematics, Data Science Minor — *Expected Grad 2028*
GPA: 3.4 | **Relevant Coursework:** Data Structures, Discrete Math, Systems Programming, Algorithms

Experience

Software Engineer Intern — Jun. 2026 – Present
Barobo — *San Jose, CA*
- Blocked **10K+** unauthorized video shares monthly by creating secure **AWS CloudFront** URLs with strict TTLs
- Scaled platform to handle **10K+** monthly requests securely by tracking user metadata in **AWS DynamoDB**
- Cut cloud environment provisioning time from 2h to 15m by writing automated **Terraform** and **AWS CLI** scripts
- Decreased API response latency by **40%** on AWS CloudWatch by optimizing complex **SQL** database queries

Software Developer → Incoming VP of Technology & Engineering Manager — Oct. 2025 – Present
Computer Science Engineering Society (CSES) at UCSD — *La Jolla, CA*
- Onboarded **100 active users** in 10 labs by engineering **Next.js** authentication and dynamic profile flows
- Secured backend API access for **4 roles** by building a **TypeScript RBAC** layer with 10 scoped permissions
- Hardened auth reliability to **99.9%** uptime by writing **Jest** tests, achieving **90%+ coverage** for getSession()
- Restricted **10 labs'** data to verified university users by integrating **Google OAuth** and **NextAuth** with **JWTs**
- Sped up relational database queries by **30%** by designing a **Mongoose** user schema with indexed lab fields

Software Developer — Mar. 2026 – Present
Triton Web Developers (TWD) at UCSD — *La Jolla, CA*
- Saved **10 hours** monthly on site maintenance by integrating **TinaCMS** for **40+** autonomous member updates
- Standardized architecture across **9 dynamic layouts** by engineering **CMS** collections, reducing errors by **90%**
- Decreased redundant support inquiries by **40%** for 100+ members by developing a stateful **React** FAQ accordion
- Increased new member application conversions by **25%** by architecting a scalable CMS-driven **React** benefit tier

Projects

inVISION [Link] | *Python, OpenCV, MediaPipe, NumPy, Pygame* — Apr. 2026
- Won **Best AI** among 500+ peers at ACM Diamond Hacks by engineering a low-latency 3D vision architecture
- Achieved **60 FPS** real-time 3D rendering by building a custom **Python** vision pipeline and model viewer
- Reduced 2D-to-3D geometry generation time by **80%** by seamlessly integrating the **TripoSR** model framework
- Decreased memory overhead by **40%** utilizing **NumPy** for optimized matrix transformations and culling
- Developed a touchless UI using **MediaPipe**, mapping complex gestures to 3D model rotation and zoom

Silent Speech [Link] | *PyTorch, OpenCV, TensorFlow, Python* — Jan. 2026
- Won **#1 Best Hack** out of 35+ teams by engineering a highly scalable lip-reading AI architecture
- Achieved **85% inference accuracy** on live webcam feeds by developing a real-time lip-reading **BiGRU** network
- Improved extraction speed by **2x** using **OpenCV** for facial landmark detection and scale normalization
- Boosted model validation accuracy by **15%** using stratified sampling, mixup, and noise injection data

remark. [Link] | *Python, TypeScript, React, Claude API, Deepgram, FastAPI* — Jun. 2026
- Shipped a hands-free AI voice agent in **24h** at Berkeley Hackathon by architecting a **React** audio HUD
- Routed dynamic spoken commands across **10 functional tasks** by engineering a **3-tier** agentic **FastAPI** router
- Cut speech-to-action latency to **2.5s** by building a real-time **React** HUD streaming live AI reasoning logs
- Protected user privacy and reduced API calls by **60%** by coding an **OpenCV** face-gate limiting listening

Technical Skills

Languages: Python, JavaScript, TypeScript, C/C++, HTML/CSS, SQL
Frameworks: React, Next.js, Node.js, Tailwind CSS, PyTorch, TensorFlow
Developer Tools: Git/GitHub, AWS (CloudFront, DynamoDB, CLI), Terraform, MongoDB Atlas, npm, Linux/Unix
Libraries: Pandas, NumPy, Matplotlib, Torchvision, OpenCV, MediaPipe, Mongoose