ERIC CUI

621 Escondido Rd, Stanford, CA 94305

📞 814-882-1459 | 🌐 www.ericcui.me | ✉ ericcui.career@gmail.com | 🔗 Eric Cui | ⚙ EricCui2005

Education

Stanford University   **September 2023 – June 2027**
B.S. Computer Science and Electrical Engineering   *GPA: 3.8/4.0*

Coursework

Programming Abstractions, Design and Analysis of Algorithms, Applied Machine Learning, Computer Systems and Organizations, Probability for Computer Scientists, Operating Systems, Decision Making Under Uncertainty, Deep Learning for Computer Vision, Computer Networking, Cryptocurrencies and Blockchain Technologies

Experience

Amazon Web Services   **June - September 2025**
Software Development Engineer Intern   *Seattle, WA*
- Developed Rust-based PQC support for AWS CloudHSM services, deployed across 20+ regions serving 1,000+ clients
- Delivered ML-DSA (CRYSTALS-Dilithium) support, enabling quantum-resistant cryptography in AWS HSMs
- Enabled PQC CloudHSM functionality across 5+ SDKs, ensuring NIST PQC readiness for 2,000+ client workloads

Wise-Sales   **December 2024 - March 2025**
Software Engineering Intern   *Palo Alto, CA*
- Developed CRM automation pipelines with agentic AI, reducing manual data-entry by 40% across 200+ client records
- Utilized Spring Boot and React to develop and refactor 8+ Java microservice servers and 12+ user application flows
- Worked with ApolloAPI, MySQL, and StripeAPI to create and maintain client prospecting databases and user profiles

Logistics Plus   **June - September 2024**
Software Engineering Intern   *Erie, PA*
- Developed and refactored 12+ ASP.NET Core APIs and webhooks, deployed across 16+ logistics complexes
- Built 10+ customizable data models for client integrations and communication pipelines with warehousing systems
- Explored AI integrations using Azure ML Studio including predicting seasonal warehouse orders and receives

Projects

Finetuning Pretrained Models for Compressed Dermatology Analysis 🔗 | *PyTorch, EC2, W&B, HPC*   **June 2025**
- Engineered a medical image classification pipeline using PyTorch to finetune DINOv2 and ViT architectures
- Developed a data augmentation framework with JPEG compression, Gaussian blur, and color quantization
- Built an automated Weights & Biases integration for experiment tracking and performance metrics

Predicting League of Legends Match Trajectories Using Stochastic Matrices 🔗 | *Jupyter Notebook*   **March 2025**
- Architected a discrete-time Markov chain model to quantify LoL game state transitions and predict match outcomes
- Implemented a wrapper for Riot Games' endpoints, handling concurrent requests and rate limiting for match data
- Engineered a real-time data processing pipeline for multivariate time series analysis of game state transitions

TreeTrash: Stanford TreeHacks 2025 🔗 | *Vision Models, OpenCV, OpenAI API, Next.js*   **February 2025**
- "Most Creative Use of OpenAI API" Stanford TreeHacks 2025 2nd Prize
- Led a team in creating a CV pipeline for identifying and analyzing incorrectly sorted waste receptacle items
- Leveraged YOLOv8 for real-time object detection and OpenCV for image preprocessing, including noise reduction
- Utilized GPT-4o for waste classification, Perplexity AI for impact research, GPT-4o-mini for structured data transformation and report generation, and Gemini Pro to post-process Vespa.ai RAG outputs

2048 with Deep Behavioral Cloning 🔗 | *Python, PyTorch, Google Colab*   **December 2024**
- Led a team in implementing game scaffolding and a custom Monte Carlo Tree Search algorithm for the game 2048
- Developed a pipeline for using expert data generated by MCTS to train a deep behavioral cloning neural network
- Jointly wrote a research paper detailing experimental methodology and research findings

Stanford Scheduler 🔗 | *Python, React, MongoDB*   **September 2024**
- Utilized Z3Py to build a constraint-based 4-year program course scheduler subject to degree and user constraints
- Designed data models and an object-oriented Z3Py Solver configuration backend with Python Flask API endpoints
- Built a user-specific React frontend to interface with Flask endpoints and a MongoDB Atlas database

Skills

Languages: Python, C, C++, C#, Rust, Java, JavaScript, TypeScript, HTML/CSS, Julia, SQL
Developer Tools: GitHub, Cursor, AWS, HPC, Jira, Vercel, Docker, MongoDB, GitLab, Cline, Q, Kiro
Frameworks: PyTorch, TensorFlow, Next.js, React.js, Node.js, Python Flask, PostgreSQL, Spring Boot, ASP.NET Core