Doyoon (Daniel) Kim

310-339-5193 | dkim927@uchicago.edu | linkedin.com/in/doyoondanielkim | github.com/danielk927

Education

University of Chicago Chicago, IL
B.S. Computer Science, B.S. Statistics *June 2029*

- Activities: UCLA Math Directed Reading Program, Financial Markets Program, HK National Kendo Team
- Awards: LAHacks Best Hardware, LAHacks AI Hackathon Company Winner, UCLA Whopathon Best Overall
- Relevant Coursework: Math for Machine Learning, Linear Algebra, Differential Equations, Multivariable Calculus

University of California, Los Angeles (UCLA) Los Angeles, CA
B.S. Computational Biology *Transferred*

Experience

Undergraduate Research Assistant January 2026 – Present
University of California, Los Angeles *Los Angeles, CA*

- Engineered thermal performance curve models using rTPC (**R**) and Python (**Pandas** + **SciPy**) scripts, visualized results using **Matplotlib** to find thermal optimum zone in Drosophila; paper pending for *Science Advances*
- Created data preprocessing pipeline in **Pandas** and **NumPy** to clean and normalize heterogeneous sleep data

Engineering Intern Oct 2025 – April 2026
Anto Biosciences (YC F25) *San Francisco, CA*

- Developed **Python** ETL pipeline on MIT SuperCloud cluster for LLM-as-a-judge evaluation: implemented regex parsing, structured JSON extraction, rating normalization, and validation heuristics across 1,200+ papers
- Engineered system prompts with structured evaluation rubrics, boosted prediction accuracy from **46% to 73%**
- Authored 7 comprehensive data visualizations and scientific figures for preprints on tokenization methods in machine learning and deep reinforcement learning for data sparsification, papers pending for *NeurIPS* and *Nature*

Projects

danieLLM - LLM inference engine built from scratch September 2026 - Present

- Built an LLM inference engine in Python and CUDA C++ for Qwen3-0.6B, implementing the forward pass (GQA, RoPE, RMSNorm, QK-norm) from raw safetensors, validated layer by layer against Hugging Face in CI
- Built paged KV cache (block-table allocator), **custom CUDA paged-attention decode kernel**, and continuous batching: 70 concurrent 2K-token sequences in 16 GB, improved decode throughput ∼**3×** over static batching
- Profiled kernels in Nsight Compute (RMSNorm at ∼**80%** of peak memory bandwidth); benchmarked TTFT, TPOT, throughput, and memory vs. vLLM on RTX 4090, reaching ∼**50%** of vLLM's decode throughput

Personal Website - Real-Time Multiplayer 3D World September 2026

- Synced **16 concurrent players** per room in real time with zero client-server desyncs under load by building a server-authoritative **Node.js WebSocket** server with client-side prediction over a deterministic simulation
- Implemented **AWS** as infra in **CDK**, with WebSockets proxied via **CloudFront** to a self-healing **EC2** origin
- Ran the game DOOM in the browser by writing a **RISC-V** emulator and a **JIT compiler** to JavaScript that runs **18x faster** than its interpreter, and cross-compiling DOOM's **C** source bare-metal against a from-scratch libc

Sync - AI Neurorehabilitation Platform May 2026 – August 2026

- Built 10+ gesture-controlled rehab games using **Three.js** and **MediaPipe** for real-time pose tracking, backed by **PostgreSQL** with row-level security for per-patient data isolation, deployed via **Vercel** + **Cloudflare**
- Deployed to 3 NGO pilots in Hong Kong with **1,400+** waitlist signups and received investment offers from 2 angels

Bridge - Speech/Image to Braille Transcriber (LAHacks Best Hardware) May 2026 – August 2026

- Built an end-to-end assistive device that turns classroom photos and lecture audio into physical braille for <$50
- Engineered **C++** firmware for **ESP32** that moves 4 motors concurrently, fed by a **FastAPI** transcription backend

Skills and Interests

Languages: Python, C++, C, JavaScript, TypeScript, HTML/CSS, R, SQL
Libraries/Frameworks: PyTorch, cuBLAS, CUDA, NumPy, Pandas, Matplotlib, MediaPipe, React, FastAPI, Node.js
Tools: Git, Docker, PostgreSQL, AWS (CDK, EC2, S3, CloudFront, IAM, CloudWatch)
Interests: Beli, Kendo, Cooking and Baking, Eating, Watching the NBA, Fashion