

Daris Chen

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EDUCATION

University of California San Diego

Bachelor of Science (B.S.) in Computer Engineering

March 2026
San Diego, CA

WORK EXPERIENCE

Software Engineer Intern - AI/ML (Lead Engineer, PatentIQ)

Jan 2026 – Present
Remote

Product Manager Accelerator

- Constructed an AI-powered patent search and drafting assistant hosted on Vercel, EC2, and Supabase using Next.js, Auth0, and FastAPI to simplify intellectual property research for early-stage founders.
- Programmed a hybrid semantic search engine combining OpenAI text-embeddings and PostgreSQL pgvector to perform high-dimensional similarity ranking and recommendation system over global USPTO patent datasets.
- Orchestrated Agile development workflows via ClickUp for a 14 member cross functional team while serving as lead architect and primary contributor to deliver the foundational PatentIQ AI technical MVP.
- Built recursive SQL query builder with Zod-validated JSON filters and implemented an LRU cache to reduce latency.

Lead Full-Stack Engineer

Aug 2025 – Mar 2026
San Diego, CA

Groundwork Books

- Led architectural migration of production e-commerce to Next.js and Square for live inventory synchronization.
- Engineered a semantic search layer using Pinecone with integrated text embeddings, enabling topic and concept-based discovery across 4,000+ SKUs without requiring exact title matches.
- Architected a two-tier caching system: a look-aside Redis reducing Square API latency by 90% (sub-200ms p99), and a client-side request coalescing hook batching 50+ concurrent inventory lookups into an API call with 2-minute TTL cache.

FishSense Artificial Intelligence Researcher

Feb 2025 – Mar 2026
San Diego, CA

UCSD Engineers for Exploration (E4E)

- Developed a custom R-CNN training pipeline (ResNet-50 backbone) for underwater laser-profiling, standardizing the Detectron2 codebase, reducing inference setup time by 40% for new researchers and increasing reproducibility.
- Devised a dual-laser photogrammetry algorithm to extract biological metrics (fish length/mass) from 2D video feeds, achieving sub-5% error rates in pixel-to-centimeter conversion.

PROJECTS

FlipperZillow | *Next.js, Python, PyTorch, AMD ROCm, Three.js, WebSpatial*

Feb 2026 – Present

- Designed an AI house tour platform named FlipperZillow using Next.js and Claude for semantic search, piping DFormerV2 spatial analysis into Claude Sonnet 4.6 to generate property scripts and ElevenLabs audio narration.
- Integrated an AMD ROCm SSH pipeline to process Realtor.com property images cascading DepthAnythingV2 into DFormerV2 and extracting WebSpatial compatible 3D objects using META's SAM3D Object.
- Assembled a 3D experience combining Google Maps and WebSpatial for Vision Pro with a Three.js fallback.

Mini-Stockfish Chess Engine | *Pygame GUI, Torchscript, NumPy, Syzygy/Gaviota*

Mar 2025 – May 2026

- Composed a hybrid chess engine combining HalfKP NNUE neural network with advanced alpha-beta search featuring killer moves, counter-move heuristics, history heuristics, quiescence search, NMP, and LMR.
- Optimized critical path using Cython, C++ legal move generation, and Zobrist hashing, reducing leaf node evaluation latency by 77.2%, cutting eval time from 1.1 ms to 0.25 ms on single-threaded commodity hardware.

Simplerfy | *Next.js, Claude API, Chrome Extension API, LaTeX*

Jan 2025 – Feb 2025

- Constructed a job application management platform with a browser extension using the Chrome Extension API to automate form-filling across 15+ job boards.
- Programmed an AI optimization engine using the Claude API to evaluate job descriptions, extracting unstructured data from PDF resumes to automate profile population and generate tailored LaTeX versions with scoring systems.

TECHNICAL SKILLS

Programming Languages: Python, Java, C/C++, JavaScript/TypeScript, HTML/CSS, ARM Assembly, SQL, Verilog/SystemVerilog, Go, Cython

Libraries & Frameworks: PyTorch, TensorFlow, CUDA, ROCm, cuDNN, Transformers, NumPy, pandas, Matplotlib, Scikit-learn, Detectron2, tqdm, React, Next.js, Node.js, Express.js, Three.js, Svelte, Tailwind CSS, Zod, DepthAnythingV2, DFormerV2, SAM3D Object, OpenAI, Claude, Signal Processing, FFT

Tools & Technologies: Git, GitHub Actions, Docker, Kubernetes, Linux, Clickup, Jira, Jest, Puppeteer, GCP, gRPC, EC2, GCC, OpenCL, Figma, VS Code, CodeMirror, Wandb, Jupyter, Hugging Face, Vercel, ESLint, Turbopack, OSM Nominatim, Open-Meteo, OpenStreetMap, Intel FPGA ModelSim, WebSpatial (Vision Pro), Auth0, SSH, HB100, RF Engineering, ESP32

Databases: PostgreSQL, MongoDB, Upstash Redis, Firebase, Pinecone, pgvector, Supabase