

David Chang

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Education

University of Texas at Austin

Bachelor of Science in Computer Science

Bachelor of Science in Electrical and Computer Engineering

Aug 2023 – Expected May 2028

Austin, TX

GPA: 3.6/4.0

Skills

Programming Languages: ARM Assembly, C, C++, C#, Java, JavaScript, Python, TypeScript

Relevant Tools: AWS, Docker, Kubernetes, Linux, FastAPI, PostgreSQL, SQLite, RDF/SPARQL, Git, .NET, Django, React

Coursework: Computer Architecture, Data Structures and Algorithms, Discrete Math, Embedded Systems, Linear Algebra

Experience

Ajou University School of Medicine

Intern | Clinical AI Research

Jun 2024 – Sep 2024

Suwon, South Korea

- Co-authored **2 peer-reviewed journal papers (11 citations)** by building BERT/GPT-based clinical NLP pipelines.
- Reduced OHDSI's Common Data Model ETL runtime by **23%** by migrating R pipelines to Python and replacing repeated row-wise operations with hash-join-based transformations.

LooxidLabs

Intern | Product Development & Analytics

Jun 2022 – Jan 2023

Seoul, South Korea

- Turned user research into product strategy and patent development for a **CES Innovation Award-winning** VR device, analyzing UI/UX feedback from **200+ alpha testers**.

Projects

LLM Financial QA Agent | Python, FastAPI, SQLite, RDF/SPARQL, BM25, Docker

Jul 2026 – Sep 2026

- Raised QA accuracy to **87% (47/54)** with **19/19 correct refusals** by building an LLM agent that federates SQL, a **1.08M-triple** RDF/OWL knowledge graph, and BM25/vector search.
- Identified tool round-trips (**up to +11.2 s** each), not prompt length (flat 2.9–3.8 s from 599 to 13.5K tokens), as the latency bottleneck, and added a **0.8 ms** deterministic retrieval router.

Tessera | ESP32, C/C++, PN532 NFC, PySide6, AES-256-GCM, SQLCipher

Mar 2026 – Present

- Led a team to place **7th of 650+** in the ROK Army Startup Competition by building an offline EHR dog-tag system.
- Engineered ESP32 firmware to read and decrypt compressed AES-256-GCM records in **under 100 ms**, paired with a PySide6/SQLCipher desktop app for offline serial provisioning.

Sisyphus (sisyphusfocus.site) | C#, .NET 8, WPF, Windows Internals (IFEO)

Apr 2026 – Present

- Reached **180+ users** with a focus utility that enforces app and website blocking, logs categorized activity, and surfaces AI-generated feedback and task management.
- Engineered a C#/.NET WPF client with near-zero idle CPU usage, Windows Registry/IFEO-based blocking, an installer, and binary-differencing updates for automated client deployment.

Ajou Course Manager | Django, Docker, K8s, React, PDFMiner, PostgreSQL

Oct 2025 – Feb 2026

- Built a full-stack academic management platform for Ajou Medical School, **handling 70+ courses, 1,400+ lectures and 400+ accounts across 9 user roles**, including Excel import/export, AI-based syllabus extraction and analytics.
- Shipped features requested by faculty and staff, backed by **600+ automated tests**.

Leadership & Activities

2nd Infantry Division Sustainment Brigade

BDE UMT KATUSA Sergeant (E-5)

Jun 2025 – Dec 2026

Camp Humphreys, South Korea

- Built internal servers with local AI and autonomous drone systems as a researcher at the 2ID Warrior Works lab.
- Provided tactical translation for the United Nations Command during ROK–U.S. combined exercises, earning the **Army Commendation Medal and Army Achievement Medal**.

Directed Reading Program

Natural Language Reasoning Team

Spring 2023 – Spring 2024

University of Texas at Austin

- Led weekly discussions on CoT and LLM reasoning papers, **covering 17 papers with UT CS Ph.D. mentorship**.