

David Jung

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SUMMARY

Early Career Software Engineer with experience in Web Development and Embedded Systems working with UX/UI and performance enhancement. **Open to relocation.**

EXPERIENCE

Software/Cybersecurity Engineer

May. 2025 – Aug. 2025

The Toro Company | Intern-

- Developed and benchmarked cryptographic **algorithms** (AES, ChaCha20) in C/C++ across multiple STM32 microcontrollers improving performance by **5 times** between IOT and mobile application
- Assist in developing a communication protocol across all interfaces, implementing **object-oriented design** and **data structures** for performance and scalability
- Encrypted data at rest by sanitizing **SQL** queries and migrated to **SQLite** ensuring safe storage and schema design
- Utilized Qt framework to develop GUI on top of **Yocto** with **Docker** container and called API's to initiate network and Bluetooth connections, increasing compliance by **60%** running on AWS
- Migrated database from SQLite to SQLCipher and managed incoming/outgoing network activity

Full -Stack AI Integrated Educational Web Application

2024 - 2025

Full-Stack Development | Python, Next.js, OpenAI, Supabase, EmailJS, SSR, Tailwind CSS, Shadcn-

- Built a **full-stack web application** for public use and tutoring services with free modules and PDF downloads
- Generated **5000+ questions** using OpenAI in Python with answer choices to dynamically render the modules and PDFs based on course, sections, and subsection hierarchy using KaTeX and Latex for formatted rendering
- Utilized **Supabase (PostgreSQL)** for **authentication** to track progress and hold questions, user information, and answers, storing over 5000 problems and answers, user information, and session logs running on AWS
- Dynamically rendered data into pages and with proper formatting in Next.js framework using ORM SQL queries for **server-side rendered** pages containing **client-side rendered** components

Hackathon Chatbot Language Model AI

Sept. 2025

Fetii Hackathon with Agentic AI | Python, **OpenAI**, Pandas Dataframe Agent, Next.js, Tailwind CSS-

- Built a **full-stack web** application given real rideshare data to provide insightful responses when prompted
- Utilized Python backend to build **ML models**, **AI models**, and **pandas dataframe agent** to directly interact with the **SQL database** and make analysis/predictions
- Successfully implemented **querying** from human language without hallucination and **90% accuracy** with **proper error handling**
- Deployed backend on **Render** and frontend on **Vercel**

Machine Learning Assistant

Jan. 2019 – May. 2022

Texas A&M University Chemistry Department | Data Science Assistant-

- Utilized machine learning models such as **linear regression**, **random forests**, and **naive bayes** to predict chemical reactions based on published data in Python environment
- Performed **data mining** on published articles to extract experimental data on similar reactions
- Implemented featured engineering algorithms and data cleaning, improving **accuracy score** by **30%**
- Leveraged Python libraries and tools such as **PyTorch**, **Scikit-learn**, **NLP**, **Pandas**, and **NumPy**

EDUCATION

Georgia Institute of Technology- MS in CS (OMSCS)

Skills: Python, Scripting, Cybersecurity, AI, Agentic AI, Full-stack development, C++, RAG, OpenAI, **Database Design**, **SQL**, Database Scheme, Relationship Modeling