

Benjamin Hu

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EDUCATION

University of California, San Diego

Bachelor of Science in Computer Science and Mathematics

La Jolla, CA

Sep 2019 – Mar 2022

EXPERIENCE

Vantage Risk

Full Stack Engineer

Remote

Jan 2024 – Present

- Architected and led migration from legacy underwriting system to modern platform, restructuring MySQL database schema and consolidating tables to improve query performance for actuarial model calculations
- Designed schema-driven API architecture using **Pydantic auto-endpoint generation**, enabling dynamic addition of new underwriting factors and risk parameters with minimal code changes
- Migrated pricing calculation engine from Python to R, achieving **60% performance improvement** by leveraging R's statistical computing optimizations for actuarial models
- Developed sophisticated data selection scripts with advanced conditional logic to extract historical loss data across diverse risk categories for **500+ global clients**
- Established maintainable code architecture emphasizing scalability and modularity, enabling rapid feature development through reusable components
- Mentored junior engineers and led onboarding programs to foster team growth and knowledge transfer

Theom.AI

Full Stack Engineer

San Jose, CA

Apr 2023 – Dec 2023

- Developed real-time topology graph visualization system using **Vue.js** and **server-sent events** to display data flow patterns and identify potential security breaches
- Built custom geographical visualization components overlaying live user access patterns on interactive maps, enabling security analysts to detect anomalies
- Designed **RESTful APIs** for automated data lineage mapping, tracking authentication and access patterns across multiple data sources for real-time monitoring
- Implemented **Autho-based role-based access control** ensuring secure platform usage while maintaining real-time monitoring capabilities for compliance
- Orchestrated scalable **microservices** deployments with **Kubernetes** and **Docker**, integrating with AWS, Azure, Snowflake, and Databricks

Games Learning Society Center, UC Irvine

Research Assistant

Irvine, CA

Jul 2021 – Jun 2022

- Developed Python-based **RESTful API** integrations for real-time esports data collection and trained **LSTM models** to identify fatigue patterns
- Conducted operations research with **multivariate regression** and **machine learning** algorithms to optimize gameplay strategies and performance
- Designed high-performance pipelines with **OpenCV** video analytics for comprehensive performance analysis and data processing

PROJECTS

MiniGPT & LLM Chatbot Platform

Personal Project

- Developed end-to-end GPT training system with **PyTorch**, implementing transformer architecture with multi-head attention, and production **FastAPI** backend supporting multiple LLM providers with conversation management

TECHNICAL SKILLS

Languages: Python, JavaScript, Java, C++, C, R, MATLAB

Frameworks & Libraries: React, Angular, Vue, Django, Flask, Pandas, NumPy, TensorFlow, PyTorch, OpenCV, SQLAlchemy

Tools & Platforms: Docker, Kubernetes, Airflow, Autho, AWS, Azure, Jenkins, Snowflake, Databricks, OpenGL, Git, Linux

Methodologies: Agile/Scrum, CI/CD, DevOps, Microservices, RESTful APIs, Object-Oriented Design