

Chaoran Huang

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TECHNICAL SKILLS

Languages : JAVA, Python, C/C++, C#, SQL (MySQL), JavaScript, TypeScript, Assembly
Frameworks : Spring Boot, Flask, Django, Pytorch, Tensorflow, SpaCy, Crypto++, jQuery, React, Angular, Node.js, ExpressJS, Bootstrap
DevOps and API Tools : Git, Docker, Kubernetes, Jekins, Postman, Jira
Cloud and Security Tools : **Amazon Web Services (AWS)** , **Google Cloud Platform (GCP)** , SQL Server, Linux (Configuring and Managing)

EDUCATION

Brown University	MS in Computer Science, GPA: 3.8	Sept 2022 - May 2024
University of California, Irvine	BS in Computer Science, Major GPA: 3.9	Sept 2017 - June 2021

WORKING EXPERIENCE

- Full-Stack Developer, Co-founder** | *LexCloud Tech Solutions Co., Ltd., Remote* August 2023 – June 2024
- Spearheading the development and integration of an all-in-one business management webapp and a QA-focused **large language model (LLM)** with machine learning and deep learning solutions: **Langchain** for legal professionals.
 - **Project: Issue Management Webapp and Language Model for Legal Practice**
 - Built the issue/case management webapp using **full-stack** technologies, focusing on **React, and Tailwind** for the frontend, and **Spring Boot** with **AWS DynamoDB, ElasticBeanstalk, EC2** and **CloudFront CDN** for the backend.
 - Developed the LLM webapp with PyTorch and LangChain to aid lawyers in legal case understanding and document preparation.
 - Integrated advanced fullstack components: **Next.js** , **Google SSO** , **Prisma** and **Spring Boot Retrofit2, Spring Security** for enhanced functionality.
 - **Achievements:**
 - The bespoke system significantly streamlined communication and workflow within law firms, attracting a considerable investment.
- Software Developer** | *My Car Auction, Inc, Irvine, CA* March 2021 - July 2022
- Contributed to the development of an automated car inspection application and management system, including web app and software development and micro-service integration to enhance business operations.
 - **Project 1: Competitor Price Scraping System**
 - Engineered a web scraping system using **Selenium and Puppeteer/Pyppeteer** to accurately fetch daily pricing data from over **30,000** competitor companies across the U.S.
 - Integrated **Axios/Express, AWS DynamoDB** , and **Vaadin framework** for robust data processing and presentation, enhanced with **ngrok** automation and anti-scraping techniques.
 - **Project 2: Oracle NetSuite Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM) System**
 - Developed and integrated NetSuite CRM and ERP system software with iTextPDF, DocuSign, PandaDoc, and Auto-lead Data Format (ADF) using **Java Spring Boot, OAuth2.0, and Retrofit2**
 - Coordinated and customized company's Financial & Accounting team's requirements in collaboration/communication with Oracle NetSuite consultants, greatly boosted working efficiency
 - **Project 3: Named Entity Recognizer for Used Vehicles (Github)**
 - Developed a **Natural Language Processing model** using **SpaCy** to extract key vehicle attributes from textual descriptions, enhancing search engine effectiveness.
 - Managed full lifecycle of model development from data collection and cleaning to training with **CNN, LSTM, and BERT transformers** , and final software integration.
 - Improved daily auto-lead numbers by **70%**, enabling the offshore team to access crucial information more efficiently.
 - **Project 4: Sales Visualization Dashboard Web App**
 - Developed an interactive dashboard using **Flask, Angular, and ECharts** for visualizing sales data, enabling better marketing decisions and automating commission calculations for employee payroll
 - Integrated micro-services for offshore teams and the Finance Department to track sales processes and vehicle auction stages

RESEARCH PROJECTS

- Activation Checkpointing for Deep Neural Network Training System** | *Harvard University* Jan 2024 - May 2024
- Developed techniques to optimize memory usage in **DNN training** using **PyTorch** ; implemented an algorithm to selectively store/recompute activations, cutting peak memory needs by **70-85%** .
 - Created a **computational graph profiler** for **Bert** and **ResNet** to analyze and optimize memory and computation time, enabling the training of larger models with increased mini-batch sizes. Provided a detailed analysis of performance improvements.
- Data & Web App Development: Netflix Fullstack Clone** | *University of California, Irvine* March 2020 - June 2020
- Developed a Netflix clone movie store website using **Java** and **JavaScript** , managing the backend database with **MySQL** , and deploying the project via **Amazon AWS** for an average load time under **300ms in pressure test**.
 - Enhanced website functionality by implementing **full-text search** , **auto-complete** , **stored procedures** , and various performance-tuning techniques.
 - Strengthened website security with **ReCAPTCHA** and **encrypted** passwords, while expanding versatility by creating an accompanying **Android** mobile app with **Google firebase** .
- Web Crawler & Search Engine** | *University of California, Irvine* March 2020 - June 2020
- Developed a **Python-based** web crawler to navigate all web pages under ics.uci.edu, utilizing packages such as **Requests, Re, and BeautifulSoup**.
 - Created a web-based UI search engine via techniques: like **TF-IDF** , for querying user-entered text in local databases, leveraging **cosine similarity** to measure the relationship between input text and crawled web pages.
 - Optimized search response times to **100ms**, enabling efficient user interactions and detailed the architecture in a comprehensive report, highlighting successful avoidance of crawler traps and accurate domain page counts.