

Kaili (Emily) Zhang

+1 832-709-7420 | zkl@seas.upenn.edu

EDUCATION

University of Pennsylvania, Philadelphia, PA
Master of Computer and Information Technology

Aug 2022 – May 2024

- Cumulative GPA: 3.94/4.00
- Relevant Coursework: Internet and Web Systems, Database and Information Systems

Rice University, Houston, TX
Bachelor of Arts in Mathematical Economic Analysis

Aug 2016 – May 2020

- Cumulative GPA: 3.94/4.00

WORK EXPERIENCE

Tech For Good Inc, Boston, MA
Software Engineer Intern

May 2023 – Aug 2023

- Led the end-to-end development of the Applicant Tracking System web application, overseeing the creation of high-level and low-level design documentation, and creating detailed flowcharts to guide the development process.
- Spearheaded the setup and configuration of the **Django** project framework, proactively assisting the team in the adoption process by conducting multiple meetings to address questions and concerns effectively.
- Collaborated with frontend developers to design and implement robust **RESTful APIs**, providing well-defined protocols for frontend-server interactions and ensuring smooth data transfer.
- Designed, implemented and maintained a **PostgreSQL** database, ensuring efficient data storage and retrieval.

Energy Ogre, Houston, TX
Business Analyst

July 2020 – Sep 2021

- Mentored an intern to develop a targeted marketing strategy utilizing statistical tools such as regression and clustering. Created a map using **Python** to guide effective ad targeting, resulting in a ~30% increase in membership growth.
- Led the communication, demand analysis, and **MSSQL** development for extracting three years of historical data, resulting in notable improvements in member communication strategy recognized by Customer Service.

RELEVANT PROJECTS EXPERIENCE

Regeggs Search Engine

Mar 2024 – May 2024

- Architected a high-performance web server, custom key-value store (KVS), and Flame data processing component for a cloud-based web search engine, enabling stable handling of complex queries and distributed data processing.
- Developed a robust indexing system for the web search engine, successfully indexing 500,000+ unique pages while addressing various edge cases to ensure comprehensive and accurate data integration.
- Implemented and fine-tuned a custom PageRank algorithm, enhancing the relevance and accuracy of search results by effectively ranking web pages based on their link structures.
- Identified and resolved critical bottlenecks in the data processing pipeline, significantly reducing the time required for indexing and PageRank calculations.

Tennis Reservation System

May 2023 – Aug 2023

- Developed a full-stack web application using **Spring Boot** for the backend and **React** for the frontend, providing a user-friendly platform to manage court reservations and related activities.
- Integrated **JWT (JSON Web Tokens)** for stateless authentication with **Spring Security**, enabling secure identity verification and access control.
- Designed and integrated a **MySQL** database to facilitate CRUD operations for users, courts, and reservations. Implemented optimized SQL queries to handle and prevent reservation conflicts.
- Employed Git as the version control system to manage and track changes in the project's source code, fostering efficient collaboration and code review among team members.

SKILLS

- Technologies: Java, Python, Spring Boot, Django, MySQL, MSSQL, C/C++, PostgreSQL, JavaScript, HTML
- Language: (Bilingual) Native in Mandarin; Fluent in English; Intermediate in Korean; Basics in Japanese