Kenneth Liou

21272 Chiquita Way, Saratoga, CA, 95070 | (650)-996-9315 | kenneth_liou@brown.edu

Objective: I want to join a fast-paced environment and grow as an engineer. Ultimately, I hope to design streamlined products from end to end, deeply understanding every component.

Education & Skills

Brown University, GPA: 4.0/4.0 – B.A. Computer Science, B.A. Biomedical Engineering   May 2024
Technologies: Python, Java, Golang, C, C++, SQL databases, No-SQL databases, TensorFlow, Ansible, Jenkins, docker, HTML/CSS, Apache Spark, JavaScript, TypeScript, React, AWS, GCP
Spoken Languages: Fluent in Mandarin

Experience

Althia: Machine Learning Engineer   Spring 2024
- Developed an ML model in a team of 4 for a startup creating automatic bio-responsive mechanical prosthetics
- Designed research methodology to gather training data and identify factors behind limb expansion
- Built a computer that reads biomarkers and controls prosthetic adjustment mechanism using the ML model
- Worked cross functionally with materials, design and electrical engineering team to make a functional prototype

Amway: Deliver Team DevOps Engineering Intern   Summer 2023
- Built and containerized a CI/CD pipeline with Docker to automate WMS rollout deployment for 70 warehouses
- Reduced approval downtime by up to 100% (an entire workday) per use by replacing manual checkpoints
- Sped up data analytics production by up to 70% after leading software transition from OBIEE to Looker Studio

X-Camp Academy: IT Team Full Stack Software Developer   Fall 2022
- Designed and implemented interactive frontend features for visualizing data and improving UX using vue.js
- Built a CI/CD pipeline with triggered backend and database testing, reducing deployment timeline by 30%

X-Camp Academy: Software Engineering Intern   Summer 2022
- Collaborated in a team of 4 to develop endpoints for fetching and updating user data using SQL and Spring boot
- Optimized existing endpoints reducing query time by 50% from database to site

Projects

Guitar Chord Identifier Application   Spring 2024
- Created an ML classifier to interpret real time audio and visual inputs and output a guitar chord in a team of 4
- Designed a neural network that is trained on Hough transformations overlaid with finger positioning
- Implemented data preprocessing, data augmentation, and regularization via dropout

EasyBP Elderly Health Tracker: Lead Backend Engineer   Fall 2022
- Led backend development in a team of 4 for a web app that reports health data and emergencies for the elderly
- Optimized data delivery pipeline between performance by comparing data retrieval times with Postman
- Conducted interviews with med students, elderly, and caretakers to research stakeholder needs and desires
- Implemented hypothesis testing algorithms and endpoints for efficient interaction with user data

Bumble DB   Fall 2023
- Designed a multithread-safe SQL database that indexes data with both B+Trees and hash tables using Golang
- Reduced table join complexity to O(N+M) with hash algorithms & bloom filters; O(1) for data lookup
- Resolved bottlenecking with fine grained locking for concurrency and a page table for efficient disk interaction
- Implemented transactions and write ahead logging features for ACID compliance and fault tolerance

Full Stack at Brown: Zafra, Literary Journal   Spring 2022
- Collaborated in a group of 5 to create a digital literary journal featuring a discussion forum and shop
- Led frontend development to create a minimalistic UI/UX for a scalable discussion forum

Search Engine for Wikipedia   Spring 2022
- Implemented Google's search algorithm to create a Wikipedia search engine that queries results in milliseconds
- Designed indexer that preprocesses data, calculates term frequency and page rank
- Trained indexer on 5,211 pages (1.2 million line XML dump, 138 MB) in 4:38 min on personal laptop

Hobbies: Fishing/crabbing/foraging, backpacking, Intramural basketball captain, guitar, Brown varsity esports