Chuangheng Li

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SUMMARY: Seeking SWE internship for 2024 Summer, experienced in backend, web, and cloud development

EDUCATION

Cornell University, College of Arts and Sciences		Ithaca, New York
Bachelor, Computer Science	**GPA**: 3.97/4.0	*December 2024 (expected)*

- **Honors**: Milstein Technology Scholar, President of project team, FinTech@Cornell Fellow, TA, RA, Dean's List
- **Relevant Courses:** Object-Oriented Programming, Data Structures, Backend Web Development, Algorithms

TECHNICAL SKILLS

Programming Languages and Web Development: Java, Python, C, JavaScript, OCaml, SQL, Django, Flask, Nginx, Vue

Database, Cloud, and Machine Learning: AWS EC2, AWS Lambda, MongoDB, MySQL, Git, PyTorch, TensorFlow

PROJECTS

MathSearch: Web-based PDF Search Engine (Github) *Aug 2022 - Present*

Given a math equation, this website searches for PDF pages with similar math equations

- Built API connection between **Flask** listening ports **AWS EC2** requests, enabling query and PDF transfer to backend
- Developed algorithms to efficiently determine the similarity between the query and equations in database
- Built a single-page web app with **React** to enable users to upload PDFs to **AWS S3** bucket for storage
- Currently working on message queuing, caching, and speeding up search through hierarchical clustering

Course Search Website for Cornell MCSA (Github) *Jun - Jul 2022*

Website for students to look up information about a course (reviews, median grades, difficulty)

- Web-scrapped sites to aggregate data about courses, stored in **MySQL** database
- Developed backend **RESTful** API for routing data about the courses to the front end (**Django**)
- Designed frontend interactive web application (**Vue JS**), enabling users to user search and sort courses
- Implemented token-based server side user authentication based on **Spring** Security framework to enable favorting

WORK EXPERIENCE

Bank of America	Charlotte, North Carolina
Software Engineer Intern (Quantitative Analytics Track)	*Jun - Aug 2023*

Enhanced chatbot (Erica) integration with GPT, business unit estimated $1Mil+ cost savings per year if deployed

- Built **prompt engineering** and confidence-based safety threshold pipeline, increasing accuracy by 30%
- Developed **test suite** for determining AI truthfulness, project escalated to leadership two reports away from CEO
- Automated data pipeline with Unix **shell** scripts, project highlighted in MRM's July consumer banking town hall

Nextstep Health Tech	New York City, New York
Software Engineer Intern	*Jul - Aug 2022*

- Automated **data processing** pipeline of mental health app's 10,000+ check-ins, reducing analysis time by 50%
- Scripted analysis investigating driving factors of positive emotions, presented findings to 50+ people (**Python**)
- Developed methods in a **test-driven** way (random, glass & black box testing), with function & class documentation

Alibaba	Hangzhou, China
Software Engineer Intern	*Dec 2020 - Jan 2021*

- Built an auto-regressive Recurrent Neural Network to predict sales across 80+ malls, preprocessed 3 years of data
- Achieved 5% test error predicting 2 weeks in advance, enabling preemptive staff deployment across malls

Hubel Labs (Software R&D Lab)	Hong Kong
Software Developer Intern	*Jun - Aug 2020*

The following features were released to all users of a language learning app for children:

- Designed algorithms to personalize a user's vocabulary lists based on books they would like to read (**AWS**)
- Automated the generating of word-tracing worksheets, now customized to a user's vocabulary list (**OpenCV**)
- Implemented update-emails that periodically summarize a user's progress (**Python, Firebase**)
- Automated vocabulary collection from textbook scans, increasing amount of data by 300% (**MongoDB**)