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Yinfeng Lu

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EDUCATION

[Related courses](#)

University of Chicago

M.S. Computer Science (software engineering) – GPA: 3.67/4.0

University of Pennsylvania

M.A. Mathematics (algebraic topology) – GPA: 3.83/4.0

University of California, Berkeley (Honors: High Distinction, Dean's List)

B.A. Mathematics, Physics – GPA: 3.93/4.0

September 2023 – December 2024

Chicago, IL

August 2021 – May 2023

Philadelphia, PA

January 2018 – May 2021

Berkeley, CA

WORK EXPERIENCE

Legman.io

June – August 2024

Software Engineer, Intern

Chicago, IL

- Architected and deployed a serverless distributed OCR system on AWS, accelerating the company's core file processing operations by 27%. Spearheaded its implementation and integration into the company's backend, ensuring high scalability and fault tolerance.
- Optimized backend architecture by developing a highly efficient, thread-safe parallelization scheme, achieving an additional 29% performance boost in file processing.
- Minimized server and network bandwidth usage by up to 85% by leveraging server-side event to enable real-time client updates on file processing progress, significantly enhancing system efficiency and user experience.
- Python, TypeScript, FastAPI, Boto3, AWS (Lambda, EC2, S3, SQS, SNS, DynamoDB, ECS), PostgreSQL, Docker

Shen Lab (Perelman School of Medicine, Penn)

August 2022 – May 2023

Student Research Assistant

Philadelphia, PA

- Developed an automated mass-cytometry data pre-processing pipeline using machine learning and computer vision (U-Net), achieving over 93% accuracy in detecting debris and technical artifacts.
- Integrated the pipeline into the lab's research workflow, leading to a 70% increase in data cleaning efficiency and substantially streamlining the analysis process compared to traditional manual methods.
- Python, PyTorch, NumPy, pandas, Matplotlib

PROJECTS

Full list: yinfenglu.com/projects/

Review System (Go, MySQL, Redis, Elasticsearch, Kafka, go-kratos, GORM, Wire, gRPC, protobuf)

[GitHub link](#)

- Developed a microservice-based review system in Go, using gRPC for inter-service communication and adhering to CQRS principles. Designed a scalable architecture with MySQL for storage, Redis for caching, Elasticsearch for efficient querying, and Kafka for data synchronization.
- Built with the go-kratos framework, leveraging GORM for ORM, Wire for dependency injection, and Consul for service discovery. Implemented role-specific endpoints for posting, replying, reporting, and moderating reviews.

Genomics Annotation Service (Python, JavaScript, Flask, Boto3, Jinja2, AWS)

[More details](#)

- Developed a cloud-native SaaS platform with a decoupled and scalable architecture on AWS, leveraging S3, S3 Glacier, Lambda, DynamoDB, SNS, SQS, SES, and Step Functions to handle file storage, archival, job tracking, user notifications, and asynchronous processing.
- Built a server-side-rendered frontend with JavaScript, Python, and Flask, deployed on EC2 with automated provisioning.
- Implemented tiered user features, including dynamic storage quotas, file size restriction, and subscription-based upgrades.

URL Shortener (Go, MySQL, Redis, go-zero)

[GitHub link](#)

- Developed a URL shortener service in Go with the go-zero framework, MySQL, and Redis, incorporating a bloom filter to prevent cache penetration and singleflight to mitigate cache breakdown.
- Implemented robust mechanisms for URL verification, generation, and redirection, addressing challenges like cyclic URLs, sensitive URLs, and custom URLs.

SKILLS

Familiar: Go, Python, Gin, Flask, Boto3, Git

Intermediate: C/C++, Java, HTML/CSS, JavaScript, SQL, GORM, React, Vue.js, gRPC, protobuf, AWS, Docker, Bash

General: Algorithms & Data Structures, Backend Development, Cloud Computing, Distributed Systems, Networks