Phone: 267-213-4600
Email: yinfeng.lu@outlook.com

Yinfeng Lu

Website: yinfenglu.com
LinkedIn: linkedin.com/in/yinfeng-lu

EDUCATION

Related courses

University of Chicago — **September 2023 – December 2024**
M.S. Computer Science (software engineering) – GPA: 3.67/4.0 — Chicago, IL

University of Pennsylvania — **August 2021 – May 2023**
M.A. Mathematics (algebraic topology) – GPA: 3.83/4.0 — Philadelphia, PA

University of California, Berkeley (Honor: High Distinction, Dean's List) — **January 2018 – May 2021**
B.A. Mathematics, Physics – GPA: 3.93/4.0 — Berkeley, CA

WORK EXPERIENCE

Legman.io — **June – August 2024**
Software Engineer, Intern — Chicago, IL

- Designed, engineered, and deployed a serverless distributed OCR system on AWS, accelerating file processing speed by 27%. Spearheaded the implementation and integration of the system into the company's backend architecture, ensuring seamless operation and scalability.
- 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 introducing 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, DynamoDB, ECS), PostgreSQL, Docker

Shen Lab (Perelman School of Medicine, UPenn) — **August 2022 – May 2023**
Student Research Assistant — Philadelphia, PA

- Co-developed an automated mass-cytometry data pre-gating pipeline using machine learning and computer vision, achieving over 93% accuracy in detecting debris and technical artifacts.
- Integrated the pipeline into the lab's research workflow, leading to an approximately 70% increase in data cleaning efficiency and significantly 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, Consul, go-kratos, GORM, Wire, gRPC) — GitHub link

- Developed a microservice-based review system in Go, utilizing 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 streamlined data synchronization between components.
- Built with the go-kratos framework, enhancing maintainability with GORM for ORM, Wire for dependency injection, and Consul for service discovery. Developed role-specific endpoints to manage review posting, replying, reporting, and moderation.

URL Shortener (Go, MySQL, Redis, go-zero) — GitHub link

- Built a URL shortener service in Go using the go-zero framework, MySQL, and Redis.. Implemented optimizations such as bloom filter to prevent cache penetration and singleflight to mitigate cache breakdown. Developed mechanisms for verifying, generating, and redirecting shortened URLs, while incorporating techniques to handle cyclic URLs and enhance scalability.

Genomics Annotation Service (Python, Flask, AWS) — More details

- Designed and implemented a cloud-native SaaS application, utilizing AWS for infrastructure and following a decoupled, scalable architecture. Built with Python and Flask for a server-side-rendered frontend and integrated S3 for file storage, S3 Glacier for archiving, Lambda for file restoration, and DynamoDB for job tracking. Leveraged EC2 for server hosting, SNS and SQS for asynchronous server communication, and SES for notifications. Implemented tiered user features, including file storage management and subscription-based upgrades.

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, Microservices