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Yinfeng Lu

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EDUCATION

Related courses

University of Chicago — **Sept. 2023 – Dec. 2024**
M.S. Computer Science – GPA: 3.67/4.0 — Chicago, IL

University of Pennsylvania — **Aug. 2021 – May 2023**
M.A. Mathematics – GPA: 3.83/4.0 — Philadelphia, PA

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

WORK EXPERIENCE

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

- Boosted file processing speed by 27% through the design and deployment of a serverless distributed OCR system on AWS. Led its implementation and integration into the company's backend server.
- Optimized backend workflow by implementing a thread-safe parallelization scheme, achieving an additional 29% improvement in file processing speed.
- Reduced server and network bandwidth usage by up to 85% by introducing server-side event to push real-time file processing updates to the clients.
- Python, FastAPI, Boto3, Amazon Web Services (Lambda, EC2, S3, SQS, DynamoDB, ECS), PostgreSQL, Docker

Shen Lab (Perelman School of Medicine, UPenn) — **Aug. 2022 – May 2023**
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 identifying debris and technical artifacts.
- Integrated the pipeline into the lab's research workflow, resulting in an approximately 70% increase in data cleaning efficiency compared to manual processes.
- Python, PyTorch, NumPy, pandas, Matplotlib

PROJECTS

A full list: yinfenglu.com/projects/

Review System (Go, MySQL, Redis, go-kratos, GORM, gRPC) — GitHub link

- Developed a microservice-based review system in Go, utilizing gRPC for inter-service communication and adhering to CQRS principles. Integrated MySQL for transactional data, Redis for caching, and ElasticSearch for efficient querying. Incorporated Kafka to asynchronously sync data between MySQL and ES. Built using the go-kratos framework with GORM for ORM, Wire for dependency injection, and Consul for service discovery. The system handles review posting, replying, reporting, and reviewing with role-specific endpoints.

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

- Built a URL shortener service in Go using the go-zero framework and RESTful API, with MySQL for storage and Redis for caching. 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, gRPC, protobuf, AWS, Docker, Bash