Hongdao Meng

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EDUCATION

New York University Sep. 2024 - May 2026 (Expected)
Master of Science in Computer Science GPA: 3.8 New York, NY

Beijing University of Technology Sep. 2020 - Jul. 2024
Bachelor of Engineering in Information Security GPA: 4.0 Beijing, CN

SKILLS

Languages: Java, Python, C/C++, Go, SQL, JavaScript, TypeScript, HTML/CSS, Shell, PHP, MATLAB, LaTeX
Frameworks: React, Angular, Vue.js, Django, Flask, Node.js, Spring Boot, PyTorch, TensorFlow, Pandas, Scikit-Learn
DataBase: MySQL, Redis, MongoDB, MilvusDB, PostgreSQL, DynamoDB, Oracle, Firebase, RocketMQ, Elasticsearch
Tools: Git, Docker, AWS, Azure, CMake, Postman, CI/CD, Jenkins, Nginx, LangChain, OpenCV, Jira, Figma

WORK EXPERIENCE

***Software Engineer Intern* @ C2SMARTER Center, New York** Jan. 2025 - Present

- Developed a full-stack RAG-based chatbot system using **React**, **Redux**, and **Flask**, delivering responsive UI and seamless communication, improving user engagement by **33.7%** and reducing data retrieval latency by **23.6%**.
- Built a scalable back-end infrastructure with **Docker**, **MongoDB**, **MilvusDB**, and **RESTful APIs**, enabling efficient data storage and retrieval, which improved query performance by **25.6%** and reduced deployment setup time by **15.7%**.
- Deployed application on **AWS EC2** and implemented **CI/CD** pipelines with **Jenkins**, ensuring high availability and automated testing, which decreased deployment cycles by **18.7%** and supported concurrent users from **5k to 10k**.
- Implemented monitoring and observability with **Grafana** and **Prometheus**, providing real-time system insights and reducing mean time to resolution (MTTR) by **25.3%**.
- Streamlined development and quality assurance processes with Postman for API testing and GitLab for version control, resolving **82%** of integration issues pre-deployment and improving team collaboration efficiency by **22%**.

***Software Engineer, Founder* @ DeepFake Detection Startup, New York** Sep. 2024 - Dec. 2024

- Developed core modules of deepfake detection web platform using **React** and **TypeScript** for seamless real-time interaction, enabling **1,200+** concurrent users and reducing client-side rendering latency by **21.3%.**
- Built real-time communication layer using **Django** and **WebSocket** for robust middleware communication, delivering real-time updates with <180ms latency, improving user task efficiency by **25.6%.**
- Deployed backend services on **Kubernetes** (AWS EKS) with **ELB** load balancing and **HPA policies**.
- Optimized **PostgreSQL** query execution through composite index tuning, reducing average response time by **18%**.

***Software Engineer Intern* @ QingTeng, Product R&D Department** Feb. 2024 - Aug. 2024

- Developed a real-time IoT analytics platform using **Django** and **Kafka**, processing **720k+** sensor events/day with 80ms P95 latency, enabling predictive maintenance alerts.
- Configured and deployed **Nginx** as a reverse proxy for both the analytics platform and the full-stack dashboard, optimizing request routing and enhancing system security.
- Automated **AWS** resource provisioning using **Terraform** and managed configuration with **Ansible**, cutting environment setup time from **4 hrs to 50 min** across 3 regions.
- Designed a robust **Kafka** cluster with cross-AZ replication (factor=3), ensuring **99.95%** availability and reliable data ingestion for both the real-time analytics and dashboard functionalities.

***Software Engineer Intern* @ Data Mining & Security Lab, Beijing** Sep. 2022 - Jul. 2024

- Developed a real-time threat detection platform using **Spring Boot** and **MyBatis**, processing 150k+ security logs/day with optimized batch SQL queries, reducing alert latency by **22%**(from 650ms to 500ms P95).
- Designed **RabbitMQ**-based notification system with priority queues, achieving <120ms latency for critical alerts (top 5% events) and 25% higher throughput.
- Implemented **Redisson** distributed cache with LRU eviction policy, achieving a **26%** reduction in database load and ensuring consistency across services.
- Deployed **ELK Stack** (**Elasticsearch**, **Logstash**, **Kibana**) for centralized logging and real-time analytics, enhancing debugging efficiency and cutting error resolution times by **35%.**
- Designed and optimized the database schema in **MySQL** to handle millions of transactions daily, reducing query latency by **25.8%** and ensuring data integrity in a high-concurrency environment.