# Jerry (Chen-Nien) Mao

Lead Software Engineer with Yahoo!    |    chennien.mao@gmail.com    |    LinkedIn:chennien-mao    |    Taipei, Taiwan

## EXPERIENCE

**Lead Software Engineer**                                                                                         **Oct. 2022 to present**
*Yahoo! Inc.*                                                                                                              Taipei, Taiwan

- **Yahoo Knowledge, Global Search** (Java, Spark, GraphQL, AWS)
  - Led a team of 4 engineers to develop and maintain TB-scale data pipelines for Yahoo's largest knowledge graph, enhancing global search experience and powering content semantic services across Yahoo products.
  - Designed and architected an LLM application using RAG to provide trustworthy answers for the search autocomplete service.
  - Directed the AWS migration to modernize the tech stack, executing a multi-stage migration plan to ensure seamless traffic transition with zero downtime for internal and cross-functional teams.
  - Led and transitioned project responsibilities from a 20+ member US team to Taiwan, ensuring uninterrupted operations and high data quality.
- **News & Trending, Global Search** (Java, Spring Webflux, Vespa, Pulsar, AWS)
  - Acted as the **architect role in the product squad**, collaborating with internal and external teams across different time zones to achieve business requirements across Yahoo and its business partners' product lines.
  - Served as the **project owner for the News and Trending platforms**, leading and mentoring a team of 6 engineers. Facilitated sprint agile ceremonies and hosted engineering sharing sessions within the team to foster growth and collaboration.
  - Directed an API modernization project that migrated a legacy API to a modern framework. Comprehensive testing minimized revenue risk while reducing p99 latency by 54%, system resource usage by 53%, and CI/CD deployment time by 60%.
  - Collaborated with scientists to deliver personalized trending content based on user footprints, boosting module traffic by 14%. Worked with cross-functional teams to extend the feature to the Yahoo homepage, increasing US search volume by 2%.
  - Designed and executed the migration of a serving layer handling 600K QPS from bare-metal infrastructure to AWS, ensuring seamless data service transitions while maintaining consistency throughout the migration.
- **Gemini, Global Ads** (Java, Spring Webflux, AWS)
  - Contributed to the Yahoo Native Ads serving platform by refactoring a revenue-sensitive API from C++ to Java on AWS EKS, maintaining performance and revenue for an Ads feedback API handling 70K QPS globally.

**Backend Engineer**                                                                                              **Sep. 2021 to Oct. 2022**
*Shopee*                                                                                                                    Singapore

- **Promotion Service** (Go, Python, Django) Shopee is a leading e-commerce platform in Southeast Asia. Developed and maintained the Promotion API and admin services supporting price discounts and coupon distribution at 100K+ QPS. Collaborated with diverse engineer teams to consolidate pricing and shipping discount logic into an unified data gateway for promotion microservices.

**Senior Software Engineer**                                                                                  **Oct. 2019 to Sep. 2021**
**Software Engineer**                                                                                             **Aug. 2017 to Oct. 2019**
*Yahoo!*                                                                                                                     Taipei, Taiwan

- **Search Platform, Global Search** (Go, Python, Django) Developed and maintained various high-impact search services, including TrendingNow, TV Series Search for Taiwan, and Real-time Local Search. Key achievements:
  - Contributed a automated data pipeline for discovering high-revenue trending terms to increase the module revenue by 70%,
  - Built a TV guide module covering 1% of Taiwan search traffic with a 25% click rate,
  - Designed real-time data pipelines for public bike rental service in Taiwan and supporting mask inventory search during pandemic, awarded **Best Poster** at Yahoo Tech conference, 2020.

## EDUCATION

**M.S., Department of Computer Science, National Tsing Hua University**                                **Hsinchu, Taiwan**
*Networking and Multimedia Systems Lab*                                                                        Sept 2015 to Jun 2017
**B.S., Department of Computer Science, National Tsing Hua University**                                 **Hsinchu, Taiwan**
*Computer Science*                                                                                                           Sept 2011 to Jun 2015

## SKILLS

**Programming Skills:** **Python**, Java, Scala, and Go
**Cloud & Infrastructure:** **AWS**, Kubernetes, Docker, Terraform
**Technical stack:** Spring Webflux, Django, Vespa, Pulsar, Kafka, PySpark
**Monitoring & Observability:** OpenTelemetry, Prometheus, Grafana, Splunk
**Languages:** **English** (Professional Proficiency), **Mandarin** (Native)