YAQIN HEI
MACHINE LEARNING ENGINEER

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EDUCATION

Hofstra University, Hempstead, NY, USA — M.S. in Business Analytics (GPA 3.73/4.0) **Jan 2017 – May 2019**
- **Thesis:** Foreign direct investment from China to the U.S. (published in \textit{Journal of International Business and Law}, 2019). **Relevant coursework:** Multivariate Data Analysis, Data Mining, Python for Data Analysis, Time Series Analysis.

Fudan University, China — M.S. in Finance (GPA 3.14/4.0) **Sep 2011 – Sep 2013**

Chang'an University, China — B.E. in Transportation (GPA 3.13/4.0) **Sep 2001 – July 2005**

RESEARCH INTERESTS

- Research interests include reinforcement learning (RL), natural language processing (NLP), alignment techniques, self-supervised learning, and building robust, sample-efficient language agents.

RESEARCH & PROFESSIONAL EXPERIENCE

Senior Architect / Machine Learning Engineer (via Cognizant) — Apple **Mar 2022 – July 2025**
- Conversational AI Systems: Investigated transfer learning strategies for LLM fine-tuning, achieving 10% relative improvement in NLU benchmark tasks in natural language understanding. Developed scalable training pipelines and integrated continuous learning frameworks to improve model robustness.
- IT Operations Automation: Proposed and implemented a multi-LLM orchestration framework with ServiceNow backends, automating 60–70% of repetitive IT service requests. Designed fallback and reliability strategies to ensure robust deployment.
- Published internal research reports on evaluation metrics (accuracy, precision, recall, F1) and alignment with user experience.

Algorithm Engineer / Tech Lead — China Construction Bank **Nov 2020 – Mar 2022**
- Conducted experiments with causal inference and A/B testing to identify key business drivers.
- Formulated predictive models for risk detection, improving service delivery and operational efficiency.

Data Scientist (Contract) — Solera, Texas, US **Aug 2018 – Aug 2020**
- Developed NLP-based classification models for credit risk assessment and predictive routing, improving decision-making and operational efficiency.
- Built personalized recommendation systems with deep learning, optimizing customer experience and engagement.
- Build advanced machine learning models for complex classification and predictive tasks.

Founder — Jingmo Fintech **Sep 2012 – Aug 2018**
- Established a data analytics firm delivering ML solutions across finance and enterprise applications.

Prior experience in academia and finance (2005–2012), including Lecturer at Hainan Political Science and Law Vocational College.

PUBLICATIONS

- Hei, Y., & Pelaez, A. (2019). Factors affecting foreign direct investment from China to U.S. *Journal of International Business and Law*, 18(2), Article 3.
- Hei, Y., & Fan, X. (2007). A reflective study on urban traffic congestion [in Chinese]. *China Public Security (Academic Edition)*, 3, 54–58.
- Hei, Y. (2011). How the trust industry can improve wealth management. *Financial Management*, ISSN 1673-1107.

TECHNICAL SKILLS

Research & Advanced ML: Expertise in LLM Fine-tuning (Parameter-Efficient Methods), Reinforcement Learning (RL), Self-supervised Learning, and Causal Inference; **Frameworks & Libraries:** PyTorch, TensorFlow, Hugging Face, Scikit-learn, LangChain, RAG architectures.

Data Engineering & Cloud: Data Handling: Spark, SQL, Data Pipeline Optimization, Feature Engineering; **Cloud Platforms:** AWS, Azure, Google Cloud (GCP), Docker, Kubernetes.

Certifications & Specialized Training: AWS Certified AI Practitioner; Google Cloud ML with TensorFlow Specialization; Introduction to Machine Learning in Production (deeplearning.ai); Computer Vision Fundamentals with Google Cloud (Coursera).