

EDUCATION

- **University of California, San Diego** La Jolla, CA
Master of Science in Electrical and Computer Engineering Sept. 2018 – Dec. 2020
- **Northwestern Polytechnical University** Xi'an, China
Bachelor of Science in Aerospace Engineering Sept. 2014 – Jun. 2018
 - **Awards:** Outstanding students three times. National Entrepreneurship Award.

PROFESSIONAL EXPERIENCE

- **ByteDance, Inc.** Shanghai, China
Machine learning Engineer @ TikTok Video Recommendation - Social May. 2022 – Present
 - R&D in **Social Recommendation System** for TikTok mobile App with around 1000M users, launched 20+ new features, brought over **120%** increase to our core business metric.
 - As ranking model owner, responsible for R&D in **product feature, strategy, recall, ranking, cold start**, etc.
- **Tencent, Inc.** Shenzhen, China
Machine learning Researcher @ IEG Lightspeed&Quantum Studios LOL Mobile Group Apr. 2021 – May. 2022
 - R&D in **new players' skill detection system** for League of Legends mobile, followed 10+ version model update and improvement in client and server. Significantly reduced one-sided games by **20%** and improved user retention by **1%**. (DAU 30M) [1]
 - R&D in **match making system** for League of Legends mobile. Used Transformer and Multi-Task Learning to predict game quality. Increased player satisfaction by **10%**, reduced one-sided games by **20%** and improved user retention by **1.5%**. Authorized three CN patents.
 - Developed **data analysis dashboard** and **user portrait service** to support other business. Used **Spark, Go, K8s** to finish 50+ tickets.
 - Company level business breakthrough award.
- **ByteDance, Inc.** Beijing, China
Machine learning engineer intern @ GIP Watermelon Video Group Sep. 2020 – Nov. 2020
 - R&D in **recommender system** for short video product. **A/B test** and **reranking strategy development** in the subscription channel.
- **University of California, San Diego** La Jolla, CA
Research Intern & Research Assistant, Advised by Prof. Pengtao Xie Mar. 2020 – Aug. 2020
 - Designed a novel loss function for **self-supervised learning** in few-shot classification task.
 - **Detection** of COVID-19 cases using chest radiography images.
 - Medical Video-Text based **Question-Answering system**, dialogue state tracking.
- **Tencent, Inc.** Shenzhen, China
Machine learning engineer intern @ IEG Content Recommendation Center Oct. 2019 – Feb. 2020
 - Deployed 10+ **recommender system** pipelines (Related to Honor of Kings) using **Spark, Redis, MySQL, Django, and K8s**.
 - Research in cutting-edge **Click-Through-Rate prediction** algorithm. Implemented the model in Tencent game community, increased CTR by **6%**. The paper has been accepted by ICCDE 2022 and awarded the best oral presentation reward. [2]
 - Built an internal library related to **tensor factorization** and used in the recall stage, raised online CTR by **10%** in the LOL player community, with **one patent** finished.
- **Ping An Insurance (Group) Company of China, Ltd** Beijing, China
Machine learning engineer intern @ Medical and Healthcare Data Mining Group Jun. 2019 – Sept. 2019
 - Participated in projects related to **disease early prediction, diagnosis, medication recommendation and chronic disease control**. Our algorithm research is used in PingAn Good Doctor (DAU 1M).
 - Participated in KDD 2019 **reinforcement learning** track (ranked 11/255), disease control task. Implemented genetic algorithm combined with meta-learning, Q-learning, SARSA and DDPG.
 - Participated in PhysioNet 2019 sepsis early prediction competition(**time-series**), using RNN and XGBoost.

PUBLICATIONS

1. Kai Wang, Chaoyun Zhang, Hao Chen, Ge Fan, Yingjie Li, Lifang Wu, and Bingchao Zheng. Quickskill: Novice skill estimation in online multiplayer games. In *Proceedings of the 31st ACM International Conference on Information & Knowledge Management*, pages 3644–3653, 2022
2. Kai Wang, Chunxu Shen, Chaoyun Zhang, and Wenye Ma. AdnFM: An attentive densenet based factorization machine for CTR prediction. *ICCDE*, 2022 **Oral [Paper] Best presentation award**
3. Ge Fan, Chaoyun Zhang, Kai Wang, and Junyang Chen. Mv-han: A hybrid attentive networks based multi-view learning model for large-scale contents recommendation. In *37th IEEE/ACM International Conference on Automated Software Engineering*, pages 1–5, 2022
4. Ge Fan, Chaoyun Zhang, and Kai Wang. Cupid: Improving battle fairness and position satisfaction in online moba games with a re-matchmaking system. In *The 27th ACM Conference on Computer-Supported Cooperative Work and Social Computing*, 2024

PROFESSIONAL SERVICES

- **PC** CIKM 2024

PROGRAMMING SKILLS

- **Languages:** Python, Scala, Hive, SQL, Go, C++, Shell, Matlab
- **Skills:** Recommender System, Data Mining, Machine Learning, Deep Learning
- **Tools:** Git, TensorFlow, PyTorch, Spark, Hadoop, Docker, K8s, AWS, Linux/Unix, Vim