LINXIA GONG

Machine Learning Engineer
Authorized to work in Switzerland with permit B, due to family reunion in progress.

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EDUCATION

Télécom ParisTech (EURECOM campus) Master's Degree in Communication System Security
 September 2015–September 2017 GPA 3.83/4.0 Biot, France

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Zhejiang University Bachelor's Degree in Control Science and Engineering
 August 2011–June 2015 GPA 3.92/4.0 Hangzhou, China

EXPERIENCE

Research Engineer Sea AI Lab, Sea Limited
 Singapore 2021 – Now

Image and Video Processing

- **Any-to-Any Generative Model:** build a generative model capable of generating any combination of output modalities, such as language, image, video, or audio, from any combination of input modalities. Now working on image-to-audio generation.
- **Speech-driven 3D Talking Avatar Synthesis:** reconstructed 3D representation of speaker from source video and animated a talking avatar based on input speech using NeRF and Diffusion model.

Reinforcement Learning Research and Engineering

- **Reinforcement Learning for Combinatorial Optimization:** built a neural combinatorial solver based on Reinforcement Learning algorithms.
- **AlphaStar AI:** trained the AlphaStar AI model to achieve an 80% win rate against very-hard built-in AI in StarCraft II.
- **RL Engineering Support:** worked on module development and framework refactoring, for applying state-of-art techniques and improving time and memory efficiency; supported experiment deployment on TPUs and GPUs.

User Modeling Research Engineer Fuxi AI Lab, Netease Games
 Hangzhou, China 2017 - 2021

Anti-Fraud Detection | KDD

- **Anomalous Behavior Detection:** detected cheating players and provide evidence to justify punishments based on sequential behaviors. Paper accepted at KDD'2018.
- **Other Detections:** supported the development of risky trade detection, trajectory detection and hack detection.

Players Matchmaking | KDD,GDC,CIKM

- **Matchmaking Services:** built model-as-a-service APIs that arrange players into teams to maximize their overall engagement in player-versus-player competitions, based on reinforcement learning and combinatorial optimization algorithms. Papers accepted at KDD'2020 and KDD'2021; work presented at GDC'2021.
- **Win and User Engagement Prediction Models:** built models to estimate the matchmaking quality, based on graph embedding algorithms and game theory method (SHAP).
- **In-game Win Prediction and News Generation:** built real-time commenting API service of match status. Paper accepted at CIKM'2020.

PUBLICATIONS

KDD'2021 Globally Optimized Matchmaking in Online Games

KDD'2020 (Oral) OptMatch: Optimized Matchmaking via Modeling the High-Order Interactions on the Arena

CIKM'2020 Match Tracing: A Unified Framework for Real-time Win Prediction and Quantifiable Performance

CIKM'2019 GMTL: A GART Based Multi-task Learning Model for Multi-Social-Temporal Prediction in Online Games

KDD'2018 NGUARD: A Game Bot Detection Framework for NetEase MMORPGs

SKILLS

Programming: Python, Cython, SQL, Shell

Data Science: PyTorch, Jax, Keras, Tensorflow, NumPy, scikit-learn

Other Tools: Kubernetes/Ray/Docker, Git, Airflow, HTML/CSS/JS, CI/CD, LaTex

Languages: Chinese (native), English (fluent), French (intermediate)