

LINXIA GONG

AI Research Engineer, relocating to Zürich due to family reunion.

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EDUCATION

Télécom ParisTech (EURECOM campus)

September 2015–September 2017

GPA 3.83/4.0

Master's Degree in Communication System Security

Biot, France

Zhejiang University

August 2011–June 2015

GPA 3.92/4.0

Bachelor's Degree in Control Science and Engineering

Hangzhou, China

EXPERIENCE

Research Engineer

Singapore

Sea AI Lab, Sea Limited

2021 – Now

Speech and Video Synthesis

- Speech-driven 3D Talking Avatar Synthesis:** reconstructed 3D representation 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 Training:** trained the AlphaStar AI model to achieve an 80% win rate against very-hard built-in AI in StarCraft II.
- RL Framework Support:** refactored on-policy models into the off-policy framework (ACME) to speed up research projects and support experiments on TPUs and GPUs.

User Modeling Research Engineer

Hangzhou, China

Fuxi AI Lab, Netease Games

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

Globally Optimized Matchmaking in Online Games

Keywords: Game Matchmaking, Combinatorial Optimization, Reinforcement Learning

KDD'2021, 6th author

OptMatch: Optimized Matchmaking via Modeling the High-Order Interactions on the Arena

Keywords: Game Matchmaking, Graph Embedding, Deep Learning

KDD'2020, 1st author

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

Keywords: Realtime Win Prediction, Performance Analysis

CIKM'2020, 3rd author

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

Keywords: Spatial-Temporal Prediction

CIKM'2019, 2nd author

NGUARD: A Game Bot Detection Framework for NetEase MMORPGs

Keywords: Anti-Cheat Detection, Behavior Sequence Analysis

KDD'2018, 3rd author

SKILLS

Programming: Python, SQL, Shell

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

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

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