LINXIA GONG

AI Research Engineer

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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

Speech and Video Synthesis
- **Speech-driven 3D Talking Avatar Synthesis:** reconstruct 3D representation from source video and animate talking avatar based on input speech.
- **Reinforcement Learning for Text-to-Speech Synthesis:** search for best synthesis path in FastSpeech TTS.

Reinforcement Learning Research and Engineering
- **Reinforcement Learning for Combinatorial Optimization:** build neural combinatorial solver based on Reinforcement Learning algorithms.
- **AlphaStar AI Training:** train the model to defeat very-hard built-in AI in StarCraft II, at a win rate of 80%.
- **RL Framework Support:** speed up research projects with refactoring on-policy models into off-policy framework(acme). Support refactored experiments to run on TPUs and GPUs.

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

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

Players Matchmaking | KDD,GDC,CIKM
- **Matchmaking Services:** build API services 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:** build models to estimate the matchmaking quality, based on graph embedding algorithms and game theory method(SHAP).
- **In-game Win Prediction and News Generation:** build 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)