

# 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)

 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

#### Image and Video Processing

- **SAM based research trials:** utilized annotations from Segment-Anything model to optimize depth prediction models.
- **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:** 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

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)