# Xiaoqin Feng (冯小琴)

XqFeng-Josie

# Curriculum Vitae

Google Scholar

## Introduction

I am a Master’ s student at the University of Southern California (USC) with research interests in Generative AI, LLM-powered agents, Human-AI Collaboration, and AI for Science. My work emphasizes agents, speech, data, evaluation, and real-world applications. I bring hands-on industry experience in these areas and am dedicated to advancing artificial intelligence through rigorous research and practical innovation.

## Education

**Master Student in Artificial Intelligence (M.Sc.)** — **Sep. 2025 – Present**
*University of Southern California USC* — *Los Angeles, California, United States*

**Master Student in Software Engineer (M.Sc.)** — **Sep. 2016 – May. 2019**
*Beijing University of Technology BJUT; overall grade: 86 (max. 100) between "Very Good" and "Good"* — *Beijing, China*

**Bachelor Student in Computer Science (B.Eng.)** — **Sep. 2012 – Jul. 2016**
*Southwest Minzu University SMU; overall grade: 3.66 (max. 4.0), "Top 5" of 154 students* — *Chengdu, China*

## Professional Experience

**Part-time Consultant** — **Aug. 2025 – Present**
*[Mobvoi]* — *Los Angeles, US*

- **Team**: Support product decision-making by focusing on model optimization, multi-agent systems, and real-time information tracking.

**Tech Lead** — **May. 2023 – Jul. 2025**
*[Mobvoi]* — *Beijing, China*

- **Agent**: Developed a multi-agent system incorporating the OpenAI Agent framework and MCP protocol stack, enabling task-oriented interaction and tool-based reasoning in production settings.
- **Audio LLMs**: Led the research and development of large-scale audio models integrated with LLMs, focusing on expressive speech generation, temporal alignment, and zero-shot audio prompting.
- **Data Engineering**: Designed and deployed scalable, plug-and-play multimodal data pipelines (text, audio, image), supporting flexible dataset generation for model pretraining and evaluation.
- **Model Evaluation & Optimization**: Designed comprehensive performance evaluations of multimodal algorithms and products to drive continuous optimization and ensure product quality.
- **Team Leadership**: Managed cross-functional teams and coordinated requirement communication in applied AI projects. Coordinated team efforts to translate research insights into deployable AI systems.

**Senior Speech algorithm Engineer** — **Jul. 2019 – May. 2023**
*[Mobvoi]* — *Beijing, China*

- **Speech Synthesis(TTS)**: Developed algorithms for multilingual and control TTS in style, emotion, prosody and G2P
- **Natural Language Processing(NLP)**: Developed algorithms for audio tokenization, TN(text normalization), polyphone disambiguation, prosody modeling, emotion detection, style sequence modeling as “Unified Frontend” framework.
- **Developer**: Designed and maintained scalable TTS and NLP systems, integrating advanced features such as control-TTS and paragraph-TTS.
- **Mentor**: working with 3 interns (annual) in NLP and Text-to-speech(TTS)

**Algorithm Research(Intern)** — **Aug. 2018 – Dec. 2018**
*TAL AI Lab* — *Beijing, China*

- **Graph-based Learning**: Developed a Deep Knowledge Tracing (DKT) pipeline using graph embeddings and distance metrics to evaluate student knowledge progression.
- **Key results**: Co-authored paper accepted at *AIED 2019*; awarded ‘Outstanding Intern’ of the year.

## Expertise and Skills

- **Agent**: Prompt engineering, tool-based reasoning, agent orchestration (OpenAI Agent, MCP framework); Task decomposition, LLM integration, multimodal interaction design
- **NLP & Speech**: Classification; Sequence Prediction; Joint-learning; Multi-stage learning; Multilingual speech synthesis & controllable TTS;
- **Data & Evaluation**: Large-scale multimodal dataset construction; Evaluation of multimodal generation
- **Software Development**: System design, Engineering, Service deployment
- **Language**: Python (5+ yrs), C++ (4+ yrs), Shell, Git; I speak native Mandarin; elementary English.

## Teaching Experience

**Lecture - Embedded System Design Practice** **2018**

*Winter*

*As teaching assistant at BJUT, for M.Sc. students, approx. 80 students each year.*

**Company - Speech & NLP** **2021-present**

*Annual*

*As a mentor at Mobvoi, for interns (students), annual. 3 students.*

## Publications

### Proceedings

- **Feng X**, Xie R, Sheng J, et al. *Population statistics algorithm based on MobileNet.* Journal of Physics: Conference Series. IOP Publishing, 2019, 6 pages. ICSP'2019.
- Wang Z, **Feng X**, Tang J, et al. *Deep Knowledge Tracing with Side Information.* International conference on artificial intelligence in education. Springer, Cham, 2019, 5 pages. AIED'2019.
- Rong Xie, **Feng X** *A method of quick edge detection based on Zynq.* International Conference on Cloud Computing and Internet of Things, 2018, 5 pages. CCIOT'2018
- Sheng J, **Feng X** *Research on the Internet of Things Platform for Smart and Environmental Protection.* International Conference on Cloud Computing and Intelligence Systems, 2018, 5 pages. CCIS'2018
- Chi W, **Feng X(*equal contribution)**, Chen Y, et al. *Multi-granularity Semantic and Acoustic Stress Prediction for Expressive TTS.* In proceedings of APSIPA 2023, 5 pages.APSIPA'2023
- Wang D, **Feng X**, Liu Z, et al. 2M-NER: contrastive learning for multilingual and multimodal NER with language and modal fusion[J]. Applied Intelligence, 2024: 1-17. 5 pages Applied Intelligence'2024
- Xinsheng Wang, **Feng X**, et al. Spark-TTS: An Efficient LLM-Based Text-to-Speech Model with Single-Stream Decoupled Speech Tokens, 2025, 22 pages arXiv preprint

### Patents

- **main 6 First inventor patents**: CN111078898A CN110970013A CN111145724A CN115470351A CN115470350A CN115547289A
- **other 4 Co-inventor patents**: CN111079428A CN111178042A CN115578998A CN116013251A

### Theses

- **Xiaoqin Feng**. 2019. *Research on multi-scene video intelligent processing system and scheduling management algorithm.* In the Institute of Software Engineering. Beijing University of Technology. 78 pages. **Master Thesis**. https://kns.cnki.net/master_thesis.pdf
- **Xiaoqin Feng**. 2016. *Intelligent Laboratory Management System.* In the Institute of Computer Science and Engineering. Southwest Minzu University. 37 pages. **Bachelor Thesis**.