

## INTRODUCTION

I am a Master's student at the University of Southern California, majoring in Artificial Intelligence. My research focuses on applying AI to real-world scenarios, particularly aligning large agent systems with human goals through multimodal reasoning and adaptive dialogue strategies. I am committed to advancing the field of artificial intelligence through rigorous study and original research.

## EDUCATION

<b>Master Student in Artificial Intelligence (M.Sc.)</b> <i>University of Southern California USC</i>	<b>Sep. 2025 – May. 2027</b> <i>Los Angeles, California, United States</i>
<b>Master Student in Software Engineer (M.Sc.)</b> <i>Beijing University of Technology BJUT; overall grade: 86 (max. 100) between "Very Good" and "Good"</i>	<b>Sep. 2016 – May. 2019</b> <i>Beijing, China</i>
<b>Bachelor Student in Computer Science (B.Eng.)</b> <i>Southwest Minzu University SMU; overall grade: 3.66 (max. 4.0), "Top 5" of 154 students</i>	<b>Sep. 2012 – Jul. 2016</b> <i>Chengdu, China</i>

## PROFESSIONAL EXPERIENCE

<b>Tech Lead</b> <i>[Mobvoi]</i> <ul style="list-style-type: none"><li><b>Agent:</b> 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.</li><li><b>Audio LLMs:</b> 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.</li><li><b>Data Construction:</b> Designed and deployed scalable, plug-and-play multimodal data pipelines (text, audio, image), supporting flexible dataset generation for model pretraining and evaluation.</li><li><b>Model Evaluation &amp; Optimization:</b> Designed comprehensive performance evaluations of multimodal algorithms and products to drive continuous optimization and ensure product quality.</li><li><b>Team Leadership:</b> Managed cross-functional teams and coordinated requirement communication in applied AI projects. Coordinated team efforts to translate research insights into deployable AI systems.</li></ul>	<b>May. 2023 – Jul. 2025</b> <i>Beijing, China</i>
<b>Senior Speech algorithm Engineer</b> <i>[Mobvoi]</i> <ul style="list-style-type: none"><li><b>Speech Synthesis(TTS):</b> Developed algorithms for multilingual and control TTS in style, emotion, prosody and G2P</li><li><b>Natural Language Processing(NLP):</b> Developed algorithms for audio tokenization, TN(text normalization), polyphone disambiguation, prosody modeling, emotion detection, style sequence modeling as "Unified Frontend" framework.</li><li><b>Developer:</b> Designed and maintained scalable TTS and NLP systems, integrating advanced features such as control-TTS and paragraph-TTS.</li><li><b>Mentor:</b> working with 3 interns (annual) in NLP and Text-to-speech(TTS)</li></ul>	<b>Jul. 2019 – May. 2023</b> <i>Beijing, China</i>
<b>Algorithm Research(Intern)</b> <i>TAL AI Lab</i> <ul style="list-style-type: none"><li><b>Graph-based Learning:</b> Developed a Deep Knowledge Tracing (DKT) pipeline using graph embeddings and distance metrics to evaluate student knowledge progression.</li><li><b>Key results:</b> Co-authored paper accepted at <i>AIED 2019</i>; awarded 'Outstanding Intern' of the year.</li></ul>	<b>Aug. 2018 – Dec. 2018</b> <i>Beijing, China</i>

## 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

<b>Lecture - Embedded System Design Practice</b>	<b>2018</b>
<i>As teaching assistant at BJUT, for M.Sc. students, approx. 80 students each year.</i>	<i>Winter</i>
<b>Company - Speech &amp; NLP</b>	<b>2021-present</b>
<i>As a mentor at Mobvoi, for interns (students), annual. 3 students.</i>	<i>Annual</i>

## 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](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**.