

# ANFENG XU

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## EDUCATION

<b>University of Southern California (USC)</b> Ph.D. in Electrical Engineering, Minor in Computer Science	Expected Dec 2026 GPA: 3.96/4.0
<b>University of Southern California (USC)</b> M.S. in Electrical Engineering	May 2024 GPA: 4.0/4.0
<b>University of California, San Diego (UCSD)</b> B.S. in Electrical Engineering, Minor in Mathematics	June 2021 GPA: 3.97/4.0

## RESEARCH INTERESTS

Speech Processing, Multimodal Learning, Generative AI, Healthcare AI, LLM.

## WORK EXPERIENCE

<b>Meta GenAI</b> <i>Ph.D. Research Scientist Intern, Advisors: Yashesh Gaur, Naoyuki Kanda</i>	May 2025 - Aug 2025 <i>Meta</i>
Naturalness prediction for conversational speech generation in the GenAI LLaMa Speech team.	
<b>Meta Reality Lab</b> <i>Ph.D. Research Scientist Intern, Advisor: Biqiao Zhang</i>	May 2024 - Aug 2024 <i>Meta</i>
Conducted research for Keyword Spotting (KWS) in the Meta Speech AI team. Paper accepted to ICASSP 2025.	
<b>Signal Analysis and Interpretation Laboratory (SAIL)</b> <i>Ph.D. Research Assistant, Advisor: Dr. Shrikanth Narayanan</i>	August 2021 - Present <i>USC</i>
Conduct research projects with the main focus on speech processing and multi-modality. Lead the child speech/video project, mentor MS students, and manage the IEMOCAP/CreativeIT data distribution.	

## RECENT PROJECTS

<b>Joint ASR and Speaker Diarization for Child-Adult Interactions (USC - BU - Apple)</b>	Oct 2024 - Present
Developed LLM error correction methods for ASR for child-adult speech. Developed an efficient ASR model guided by integrated child-adult speaker prediction with serialized output training.	
<b>Speaker Diarization for Child-Adult Interactions (USC - BU - Apple)</b>	Jan 2022 - Oct 2024
Proposed annotation framework and modeling pipeline to predict language capabilities of children directly from audio. Developed an audio-visual child-adult speaker classification method. Built a child-adult speaker diarization model with Speech Foundation Models. Built simulated conversations from AudioSet to further enhance child-adult speaker diarization.	
<b>AI Conversational Interactions (USC - Disney Research)</b>	June 2022 - Present
Helped investigating methods to estimate WER and CTC loss for simulated speech data. Collecting conversational dataset between a digital AI agent and multiple subjects.	

## SELECTED PUBLICATIONS

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[Interspeech'25] T Feng, **A Xu**, X Shi, S Bishop, S Narayanan. “Egocentric speaker classification in child-adult dyadic interactions: From sensing to computational modeling.”

[Interspeech'25] Z Shi, X Shi, **A Xu**, T Feng, H Srivastava, S Narayanan, M Mataric. “Examining Test-Time Adaptation for Personalized Child Speech Recognition.”

[Interspeech'25] **A Xu**, T Feng, SH Kim, S Bishop, C Lord, S Narayanan. “Large Language Models based ASR Error Correction for Child Conversations.”

[ICASSP'25] **A Xu**, T Feng, H Tager-Flusberg, C Lord, S Narayanan. “Data Efficient Child-Adult Speaker Diarization with Simulated Conversations.”

[ICASSP'25] **A Xu**, B Zhang, S Kong, Y Huang, Z Yang, S Srivastava, M Sun. “Effective Integration of KAN for Keyword Spotting.”

[NeurIPS Workshop'24] (GenAI for Health) T Feng, **A Xu**, et al. “Can Generic LLMs Help Analyze Child-Adult Interactions Involving Children with Autism in Clinical Observation?”

[Interspeech'24] **A Xu**, K Huang, T Feng, L Shen, H Tager-Feng, S Narayanan. “Exploring Speech Foundation Models for Speaker Diarization in Child-Adult Dyadic Interactions.”

[ICASSP'24] **A Xu**, K Huang, T Feng, H Tager-Feng, S Narayanan. “Audio-visual child-adult speaker classification in dyadic interactions.”

[ACM MM'23] D Bose, R Hebber, T Feng, K Somandepalli, **A Xu**, S Narayanan. “MM-AU:Towards Multimodal understanding of advertisement videos.”

[Interspeech'23] **A Xu**, R Hebbar, R Lahiri, T Feng, L Butler, L Shen, H Tager-Flusberg, and S Narayanan. “Understanding Spoken Language Development of Children with ASD Using Pre-trained Speech Embeddings.”

(First author in **RED**, others in **BLUE**)

## LANGUAGES

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English (fluent), Japanese (native), Mandarin Chinese (conversational)

## AWARDS

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ECE Ph.D. Screening Exam (USC, 2022): Ranked 1st for the Signals and Systems track.

Annenberg Fellowship (USC, 2021): Top-off fellowship selected among incoming Ph.D. students.

Summa Cum Laude (UCSD, 2021): GPA top 0 ~ 2%.