Anfeng Xu

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Education   .

University of Southern California   *Aug 2021 - present*

- Ph.D in Electrical Engineering (Computer Science Minor)   GPA: 4.00
- Advisor: Shrikanth Narayanan

University of California, San Diego   *June 2021*

- BS in Electrical Engineering (Mathematics Minor)   GPA: 3.97
  - o Specialization in Signal Processing and Machine Learning

Awards and Honors   .

- Annenberg Fellowship (USC)   Aug 2021
- Summa Cum Laude (GPA top 0~2%; UCSD)   June 2021

Work Experience   .

Research Assistant, USC - SAIL (Signal Analysis and Interpretation Laboratory)   *Aug 2022 – present*

- Child language skills prediction in Autism – funded by Apple
  - o Proposed annotation framework and methods to directly predict language capabilities from audio
  - o Currently working on audio-visual child/adult classification
  - o 1 paper published for Interspeech 2023, currently drafting another paper for ICASSP 2024
- ASR for Conversational AI – in collaboration with Disney Research
  - o Investigated contrastive learning and TCN for estimating WER and CTC loss
  - o Currently collecting conversational dataset between a digital AI agent and multiple subjects

Research Intern in Information Theory, UC San Diego   *Jan 2020 – Dec 2020*

- Conducted research with Dr. Tara Javidi in Information Theory and Computer Science algorithms
- Developed a new algorithm for a Quantitative Group Testing (QGT) problem

R&D Intern, Engineers for Exploration   *Jan 2019 – Sept 2019*

- Developed an underwater depth sensor embedded system for Scripps Institute of Oceanography using C language.

Publications   .

- **A Xu**, K Huang, T Feng, H Tager-Feng, S Narayanan, "Audio-visual child-adult speaker classification in dyadic interactions", submitted to ICASSP 2024
- D Bose, R Hebber, T Feng, K Somandepalli, **A Xu**, S Narayanan, "MM-AU:Towards Multimodal understanding of advertisement videos, " in ACM MM 2023
- **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," in Interspeech 2023
- C Beluso, **A Xu**, E Patamasing, B Sebastian, et al. "D-SEA: The underwater depth sensing device for standalone time-averaged measurements", in 2019 IEEE 16th International Conference on Mobile Ad Hoc and Sensor Systems Workshops (MASSW)

Skills   .

- Languages: Python, C, C++, Java , Matlab, R, Bash
- Tools: Pytorch, Pytorch Lightning, Sklearn, Git/Github, Unix/Linux, LaTeX
- English (fluent), Japanese (native), Mandarin (conversational)

Selected Courses   .

- Applied: Machine Learning, Deep Learning, Speech Processing, Data Structure, Algorithm, Digital Signal Processing
- Theoretical: Real Analysis, Probability Theory, Statistics, Random Process, Convex Optimization, Linear Algebra