JIAMIN XIE

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850 Greenside Dr., Apt. 7304, Richardson, TX, 75080

EDUCATION

University of Texas at Dallas   *Aug 2021 - Present*
Ph.D Electrical Engineering
GPA: 4.00/4.00

Johns Hopkins University   *Aug 2018 - May 2020*
M.S. Electrical Engineering
Conc. in Human Language Technology
GPA: 3.88/4.00

Virginia Tech   *Aug 2014 - June 2018*
B.S. Electrical Engineering
Minor in Computer Science
GPA: 3.65/4.00

WORK EXPERIENCE

Balto Software, Inc   *Jul 2020 - Jul 2021*
Speech to Text Engineer, self-directed

· Maintained a real-time ASR engine and deployed model weekly with lexicon updates
· Reduced the internal word error rate benchmark by a 10% relative
· Built several strategies to refine the TDNN AM with few in-domain data (<10 hours)
· Developed a full pipeline to train neural LMs and convert them into back-off models
· Utilized multiprocessing to reduce computation in training and tracked memory usage

Power Fingerprinting, Inc.   *May 2018 - Jul 2018*
Internship, advised by Dr. Jeffery Reed

· Collected and tested features of CPU power signals to detect side-channel attacks
· Simulated and verified a process to encrypt and decrypt feature values of power signals

PUBLICATION

Xie, Jiamin and John H. L. Hansen. **DEFORMER: Coupling Deformed Localized Patterns with Global Context for Robust End-to-end Speech Recognition**. In Proc. Interspeech, 2022. [paper]

Szu-Jui Chen, **Xie, Jiamin**, and John H. L. Hansen. **FeaRLESS: Feature Refinement Loss for Ensembling Self-Supervised Learning Features in Robust End-to-end Speech Recognition**. In Proc. Interspeech, 2022. [paper]

Xie, Jiamin, Suzanna Sia, Leibny Garcia, Daniel Povey, and Sanjeev Khudanpur. **Mixture of Speaker-type PLDAs for Children's Speech Diarization**. preprint arXiv, 2020. [paper]

Xie, Jiamin, Leibny Garcia, Daniel Povey, and Sanjeev Khudanpur. **Multi-PLDA Diarization on Children's Speech**. In Proc. Interspeech, pp. 376-380. 2019. [paper]

RESEARCH EXPERIENCE

Speech Recognition for Telephony Conversational Speech *Aug 2021 - Present*
Graduate Research, advised by Dr. John Hansen

- · Investigated end-to-end ASR models using deformable CNN as a building block [poster]
- · Adapting self-supervised features to mismatched domain by augmentation and analysis

Speaker Diarization of Child-based Recordings [thesis] *Aug 2018 - May 2020*
Graduate Research, advised by Drs. Leibny Garcia and Sanjeev Khudanpur

- · Compared attention and recurrent neural networks to estimate speaker type in sequences
- · Formulated and built mixture model to enhance speaker clusters with speaker type knowledge
- · Made augmentation strategies of children speech for *x-vector* and *i-vector* speaker models
- · Investigated fusion of multiple systems to improve child speaker modeling [poster]

SERVICES AND ACTIVITIES

Minister of Activities Department at Chinese Students Association *May 2022 - Present*

- · Organized mid-autumn festival gala, recruiting, and welcoming events for students

Reviewer for Circuits, Systems, and Signal Processing (CSSP) *Aug 2020 - Sep 2020*

- · Conducted a journal manuscript review on child speaker verification

IEEE Honor Society Member, Eta Kapa Nu *Aug 2016 - May 2018*

- · Held tutoring sessions on the signals and systems course

HONORS AND AWARDS

ISCA Travel Grant for Interspeech 2019	*Sep 2019*
Dean's List in College of Engineering, Virginia Tech	*Nov 2018*
Dean's List in College of Engineering, Virginia Tech	*Jul 2017*
Dean's List in College of Engineering, Virginia Tech	*Feb 2016*
Dean's List in College of Engineering, Virginia Tech	*Feb, Jul 2015*

SELECTED COURSEWORK

Information Theory (*Fall'19*)	Natural Language Processing (*Fall'19*)
Audio Signal Processing (*Fall'18*)	Deep Learning (*Spring'19*)
Wavelet & Filter Banks (*Fall'18*)	Machine Learning for Signal Processing (*Fall'18*)
Information Extraction (*Spring'19*)	Data Structure & Algorithms (*Spring'18*)
Analog Electronics (*Spring'17*)	Digital Communications (*Spring'17*)
DL Specialization (Coursera Cert.)	

TECHNICAL STRENGTHS

Programming Languages	Python, Bash, MATLAB, AWK, C++, C, Swift
Toolkits and Libraries	Kaldi, Espnet, PyTorch, TensorFlow, scikit-learn, SRILM, NLTK, Anaconda, SciPy, NumPy
Software and Platforms	Vim, LaTeX, AWS, Git, Docker, Eagle, PIC32
Natural Languages	Mandarin Chinese (*native*), English (*proficient*), Spanish (*beginner*)