JIAMIN XIE

(540) 315 - 5773 ◇ jxie27@jhu.edu
web: jiamin1013.github.io
3427 University Place, Baltimore, MD 21218

EDUCATION

Johns Hopkins University *Aug 2018 - May 2020 (Expected)*
M.S. in Electrical & Computer Engineering
Overall GPA: 3.88/4.00

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

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 *Jul 2015*
Dean's List in College of Engineering, Virginia Tech *Feb 2015*

PUBLICATION

Xie, Jiamin, Leibny Paola Garcia-Perera, Daniel Povey, and Sanjeev Khudanpur. **Multi-PLDA diarization on children's speech**. In Proc. Interspeech, pp. 376-380. 2019. https://www.isca-speech.org/archive/Interspeech_2019/pdfs/2961.pdf

RESEARCH PROJECTS

Speaker Diarization of Children's Speech *Aug 2018 - Present*
Graduate Research, advised by Drs. Leibny Garcia, Daniel Povey, and Sanjeev Khudanpur

- Coding a public system of DIHARD II Speech Diarization Challenge in Kaldi
- Developing robust speaker type detection to infer hierarchically speaker identities
- Researched and compared *x-vector* and *i-vector* methods to model child speakers
- Investigated fusion of PLDA models to improve children's speech diarization
- Devised data augmentation using non-speech vocalizations for children's speech

Cognitive Radio Algorithm for UTC Aerospace Systems *Jan 2017 - Jan 2018*
Senior Design Project, advised by Dr. Harpreet Dhillon

- Performed fast detection of signal interferences under 10 nanoseconds
- Designed a frequency hopping algorithm to mitigate radio altimeter interference
- Simulated O-QPSK modulation of sensor network signals and FM of radio altimeter
- Modeled receiver signal characteristics by the Earth Surface transfer function

Underwater Acoustic Signal Processing for AUV [pdf] *Jan 2017 - Jan 2018*
Undergraduate Research, advised by Dr. Daniel Stilwell

- Constructed piezoelectric sensors for the reception of acoustic signals
- Designed signal processing & detection circuitry for source localization
- Applied delay & sum algorithm of beamforming to enhance received signals
- Extracted bearing angle to the source using a linear microphone array model
- Fabricated the electrical system on a 4-layer analog/digital mixed PCB

Signal Analysis for 5G Carrier Waveform [pdf] *Jan 2017 - Jan 2018*
Undergraduate Research, advised by Dr. Carl Dietrich

- Formulated a power efficient constant envelope variation of OFDM waveform
- Simulated transmitter & receiver blocks of CE-OFDM under AWGN channel
- Analyzed communication systems under M-ary PSKs or QAM modulation
- Studied performance trade-off in bit error rate, bandwidth and power efficiency

WORK EXPERIENCE

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

- Tested various features extracted from CPU power signals to combat side-channel attacks
- Coded and demonstrated key encryption and decryption process of power signal features
- Explored EM emission pattern of power signals running on different hardware platforms

SERVICES AND ACTIVITIES

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

- *Held tutoring sessions on Signals & System course*

Event Coordinator, Entrepreneur Mind of Engineers (EME) Club *Jan 2017 - May 2018*

- *Organized meetings between student teams and sponsors*

SELECTED COURSEWORK

Information Theory (*Fall'19*)
Audio Signal Processing (*Fall'18*)
Wavelet & Filter Banks (*Fall'18*)
Information Extraction[1](*Spring'19*)
Analog Electronics (*Spring'17*)
DL Specialization (Coursera Cert.)
Natural Language Processing (*Fall'19*)
Deep Learning (*Spring'19*)
Machine Learning for Signal Processing (*Fall'18*)
Data Structure & Algorithms (*Spring'18*)
Digital Communications (*Spring'17*)

TECHNICAL STRENGTHS

Programming Languages	Python, Bash, AWK, MATLAB, C++, C, Swift
Toolkits and Libraries	Kaldi, PyTorch, TensorFlow, Keras
Interfaces and Platforms	Vim, Eagle, LTspice, PIC32, LaTeX
Natural Languages	Mandarin Chinese (*native*)
	English (*proficient*)

[1]Speech Recognition