

Cheng-I Jeff Lai

CONTACT INFORMATION	email: clai24@mit.edu website: jefflai108.github.io code: github.com/jefflai108	mobile: (424) 376-6341 3501 Saint Paul Street Baltimore, MD 21218
RESEARCH INTERESTS	Deep Learning, Speech Processing, Speaker Recognition, Neural Machine Translation, Speech Synthesis	
EDUCATION	Massachusetts Institute of Technology , Cambridge, MA Ph.D. in Computer Science Advisor: Dr. Jim Glass	(Expected) Sep 2019
	Johns Hopkins University , Baltimore, MD B.S. in Electrical Engineering Advisors: Prof. Najim Dehak and Dr. Jesús Villalba	Sep 2015 - Dec 2018
PUBLICATIONS	Cheng-I Lai , Nanxin Chen, Jesús Villalba, Najim Dehak,. “ASSERT: Anti-Spoofing with Squeeze-Excitation and Residual neTworks,” [Submitted to Interspeech 2019][Code] Cheng-I Lai . “Contrastive Predictive Coding Based Feature for Automatic Speaker Verification,” [Bachelor Thesis][Code] Kelly Marchisio, Jialiang Guo, Cheng-I Lai , Philipp Koehn. “Controlling the Reading Level of Machine Translation Output,” [MT Summit 2019] Cheng-I Lai , Alberto Abad, Korin Richmond, Junichi Yamaghashi, Najim Dehak, Simon King. “Attentive Filtering Network for Audio Replay Attacks Detection,” [ICASSP 2019][Code] Phani Nidadavolu, Cheng-I Lai , Jesús Villalba, Najim Dehak. “Investigation on Bandwidth Extension for Speaker Recognition,” [Interspeech 2018]	
TALKS	Deep Learning Frameworks for Anti-Spoofing Gulf Coast Undergraduate Research Symposium, Rice University	Oct 2018
	Attentive Filtering Network for Audio Replay Attacks Detection Center for Language and Speech Processing Graduate Seminar, Johns Hopkins University	Oct 2018
	Attentive Filtering Network for Audio Replay Attacks Detection Centre for Speech Technology Research Seminar, Informatics Forum, University of Edinburgh	Aug 2018
POSTERS	Cheng-I Lai , Alberto Abad, Korin Richmond, Junichi Yamaghashi, Najim Dehak, Simon King. “Attentive Filtering Network for Audio Replay Attacks Detection,” ICASSP 2019, Brighton, UK. Phani Nidadavolu, Cheng-I Lai , Jesús Villalba, Najim Dehak. “Investigation on Bandwidth Extension for Speaker Recognition,” Interspeech 2018, Hyderabad, India. Cheng-I Lai , Phani Nidadavolu, Jesús Villalba, Najim Dehak. “Deep Bandwidth Extension for Speaker Recognition,” Johns Hopkins Research Symposium 2018, Baltimore, USA. Cheng-I Lai , Jesús Villalba, Najim Dehak. “Voice Activity Detection of Noisy Speech Utterances with LSTM,” Johns Hopkins Research Symposium 2017, Baltimore, USA.	
RESEARCH EXPERIENCES	Research Intern National Institute of Informatics, Japan Advisor: Prof. Junichi Yamagishi • Speaker encoder for TTS.	Summer 2019

	Undergraduate Research Assistant Center for Language and Speech Processing (CLSP), Johns Hopkins University Advisors: Prof. Najim Dehak and Dr. Jesús Villalba <ul style="list-style-type: none"> • Investigated DNN frameworks for ASVspoof 2019 Challenge. • Built a speaker recognition system based on contrastive predictive coding features. • Integrated DNN-based bandwidth extension network for speaker recognition systems. • Designed automatic speech biomarkers with acoustic model for Parkinson's disease detection. • Applied CNN and RNN to voice activity detection of noisy speeches. • Speech gender identification with bottleneck features and linear discriminant analysis. 	Sep 2016 - May 2019
	Research Intern Informatics Forum, University of Edinburgh Advisor: Prof. Simon King and Prof. Korin Richmond <ul style="list-style-type: none"> • Proposed Attentive Filtering Network for audio replay attacks detection and achieved 30% relative improvement over the enhanced baseline system on ASVspoof 2017 Version 2.0 dataset. 	Summer 2018
	Research Intern Human Language Technology Center of Excellence (HLTCOE), Johns Hopkins University Advisor: Prof. Najim Dehak and Dr. Jesús Villalba <ul style="list-style-type: none"> • Investigated audio event classification with LSTM and HMM for National Institute of Standards and Technology OpenSat evaluation. 	Summer 2017
AWARDS	Departmental and General Honors , Johns Hopkins University Third Place , 2019 Automatic Speaker Verification Spoofing and Countermeasures Challenge Merrill Lynch Fellowship , Department of Electrical Engineering and Computer Science, MIT Travel Grant , Gulf Coast Undergraduate Research Symposium, Rice University Vredenburg Scholarship , Johns Hopkins University Idea Lab Diversity Innovation Grants Winner , Johns Hopkins University Winner of MedHacks and Best with Wolfram API Tech Award Student Initiative Fund and Digital Da Vinci Award , Johns Hopkins University Dean's List (All semesters) , Johns Hopkins University	2019 2019 2019 2018 2018 2016 2016 2016 2015-2018
TEACHING EXPERIENCE	Teaching Assistant , Johns Hopkins University Computational Modeling for Electrical and Computer Engineering Instructor: Prof. Najim Dehak Teaching Assistant , Johns Hopkins University Probability and Statistics for the Life Sciences Instructor: Prof. Prashant Athavale	Spring 2018 Spring 2017
SKILLS	Computer Skills: <ul style="list-style-type: none"> • Proficient: Python, Shell, MATLAB, GPU computing, Large-scale data processing • Familiar: \LaTeX, Java, R Programming Frameworks: Kaldi, PyTorch, Keras, scikit-learn Languages: Mandarin (native), English (fluent)	