Trang Tran

Speech & natural language processing, prosody
Applications in health, education

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EXPERIENCE

Reality Defender, New York, NY *11/2023-present*
Applied Scientist II - Audio

Develop and analyze models for audio deepfake detection [10,11]

Institute for Creative Technologies, Los Angeles, CA *12/2020-10/2023*
Postdoctoral Researcher

Develop, evaluate, and analyze multimodal (text & speech) machine learning models for understanding dialog patterns in motivational interviews (MI) therapy sessions; focus on predicting MI intent codes, estimating empathy perception and correlation to behavioral outcomes, identifying salient features in MI to aid clinicians in diagnosis and therapist training [7,8,9]

University of Washington, Seattle, WA *06/2014-12/2020*
Graduate Research Assistant in Speech and Natural Language Processing

- Developed models for integrating prosodic and acoustic features in spoken language tasks (parsing; dialog act recognition), analyzed the effects of speech styles and conditions (conversational vs. read, manual vs. ASR transcripts) [3,4,5,6]
- Analyzed disfluency patterns in children's speech, contributed to extending annotation system for children's speech transcript; studied acoustic models for prosodic patterns in language acquisition and learning [2]
- Developed style & topic models for characterizing language of reddit discussions; assessed the correlation between style vs. topic similarity with community endorsement, revealing higher correlation of style [1]

Liulishuo/LingoChamp (now LAIX), San Mateo, CA *06/2018-09/2018*
Research Intern

Developed and evaluated seq2seq vs. transformer models to incorporate prosodic-acoustic information in parsing for second language learning; analyzed the differences of native vs. non-native speech effects on parsing [5]

Amazon Alexa Shopping, Seattle, WA *06/2017-08/2017*
Applied Scientist Intern

Developed and evaluated ranking algorithms for selecting Amazon Choice items in recommendation; analyzed the utility of language features

Toyota Technological Institute, Chicago, IL *06/2016-09/2016*
Visiting Graduate Intern

Developed and evaluated seq2seq architectures for constituency parsing of conversational speech, using transcripts and acoustic features [3]

Bucknell University, Lewisburg, PA *08/2012-05/2014*
Graduate Research Assistant

Developed and evaluated filter- and inventory-based systems for voice conversion and speech enhancement

EDUCATION

University of Washington, Seattle, WA *06/2014-12/2020*
PhD in Electrical Engineering
Thesis: Neural Models for Integrating Prosody in Spoken Language Understanding

Bucknell University, Lewisburg, PA *08/2012-05/2014*
MS in Electrical Engineering
Thesis: Noise-Robust Voice Conversion

Bucknell University, Lewisburg, PA *08/2007-05/2012*
BS in Electrical Engineering & BA in Economics

SKILLS

Computing: python (pytorch, sklearn), bash, MATLAB

Languages: Vietnamese (native), English (fluent), French (conversational)

HONORS & AWARDS

University of Washington Society of Women Engineers Outstanding Female Engineer Award, 2020

University of Washington Clairmont L. Egtvedt Endowed Engineering Fellowship, 2020

Bucknell University Fremont International Student Scholarship, 2007-2012

Honor Societies: Phi Beta Kappa, Tau Beta Pi

SERVICE & OUTREACH

Action Editor (area chair) for ACL Rolling Review, 2021 - present

Virtual Platform Co-chair ACII 2021

Academic Conference Reviewer
- Interspeech 2023 - present
- ICMI 2021 - present
- ACL 2020 - present
- EMNLP 2019 - present
- Transactions of Affective Computing 2022-2023

Interspeech Mentoring Committee
ISCA Student Advisory Committee, 2021 - present

Student Advisory Council
UW Electrical & Computer Engineering, 2019 - 2020

Research Mentor 1 PhD student, 2 Master's students 2020 - 2023; 3 Undergraduate (REU) student interns 2021 - 2023

REFERENCED PUBLICATIONS

[11] Zhu et al., ASVSpoof 2024
[10] Zhu et al., NeurIPS 2024
[9] Tran et al., ICMI 2023
[8] Tavabi et al., ACII 2023
[7] Tavabi et al., CLPsych 2021
[6] Tran & Ostendorf, Interspeech 2021
[5] Tran et al., Interspeech 2019
Best Student Paper Nominee
[4] Zayats et al., Interspeech 2019
[3] Tran et al., NAACL 2018
[2] Tran et al., Interspeech 2020
[1] Tran & Ostendorf, EMNLP 2016