

Haoran Xu

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EDUCATION

Johns Hopkins University (JHU) Baltimore, United States
Ph.D. - Computer Science Sep. 2021 – Present
M.S.E - Computer Science; GPA: 3.93/4.0 Aug. 2019 – Dec. 2020
Concentration on Human Language Technology (HLT)

University of Illinois at Chicago (UIC, 3+2 exchange program) Chicago, United States
M.S. - Electrical and Computer Engineering; GPA: 3.93/4.0 Aug. 2017 – May 2019

East China University of Science and Technology (ECUST) Shanghai, China
B.E. - Information Engineering; Major Ranking: 1/90 Sep. 2014 – Jul. 2018

Main coursework: Nature Language Processing, Machine Learning, Human Language Technology, Algorithms, Pattern Recognition, Neural Networks, Computer Vision

Current Research areas: Cross-Lingual Learning, Machine Translation

EXPERIENCE

Amazon Alexa AI Seattle, United States
Applied Scientist Intern May 2021 – Aug. 2021

- Designed a novel style transfer algorithm that transfers the text style while keeps the main semantics
- Generalized the applicability of the algorithm in various scenarios, including sentiment, formality and code-switching transfer

Center for Language and Speech Processing Baltimore, United States
Research Assistant Sep. 2019 – Present

- Studied on large-scale multilingual pre-trained language models and neural machine translation models
- Investigated cross-lingual learning and its application to Information Extraction

BLAB Lab, Johns Hopkins University Baltimore, United States
Research Intern May 2020 – Dec. 2020

- Investigated a novel data augmentation approach for low-resource domain adaptation
- Studied the general applicability of the data augmentation approach on Information Extraction tasks

Waveform Optimization Lab, University of Illinois at Chicago Chicago, United States
Research Assistant Nov. 2018 – Mar. 2019

- Developed a new algorithm to reduce the peak energy of data transmission based on *Unimodular Quadratic Programming (UQP)*
- Provided more mature and general techniques for solving the *UQP* problem in radar code design scenarios as well as other active sensing and communication applications.

PUBLICATIONS

- [1] **VAE based Text Style Transfer with Pivot Words Enhancement Learning**
Haoran Xu, Sixing Lu, Zhongkai Sun, Chengyuan Ma, Chenlei Guo, Under review at **AAAI 2022**
- [2] **BERT, mBERT, or BiBERT? A Study on Contextualized Embeddings for Supervised Neural Machine Translation**
Haoran Xu, Benjamin Van Durme, Kenton Murray, **EMNLP 2021 (Oral)**
- [3] **Everything Is All It Takes: A Multipronged Strategy for Zero-Shot Cross-Lingual Information Extraction**
Mahsa Yarmohammadi*, Shijie Wu*, Marc Marone*, **Haoran Xu**, Seth Ebner, Guanghui Qin, Yunmo Chen, Jialiang Guo, Craig Harman, Kenton Murray, Aaron Steven White, Mark Dredze, Benjamin Van Durme, **EMNLP 2021 (Oral)**

- [4] **Gradual Fine-Tuning for Low-Resource Domain Adaptation**
Haoran Xu, Seth Ebner, Mahsa Yarmohammadi, Aaron Steven White, Benjamin Van Durme, Kenton Murray, Adapt-NLP, EACL 2021
- [5] **Zero-Shot Cross-Lingual Dependency Parsing through Contextual Embedding Transformation**
Haoran Xu and Philipp Koehn, Adapt-NLP, EACL 2021
- [6] **Cross-Lingual BERT Contextual Embedding Space Mapping with Isotropic and Isometric Conditions**
Haoran Xu and Philipp Koehn, 2020
- [7] The other paper in wireless communication: **Efficient Quadratic Programming for Peak-to-Average Power Ratio Reduction in Communication Systems**
Haoran Xu, Shahin Khobahi and Mojtaba Soltanalian, 2019

SELECTED AWARDS

- Best Student Paper Award ECUST – 2018
- First Place at the 2018 Engineering Expo UIC – 2018
- Principal Scholarship (top 2%-ranked student) ECUST – 2015, 2016, 2018
- Social Work Award (top 5%-ranked student in community contribution) ECUST – 2015, 2016, 2018
- Excellent Student Award (4 selected among 1000 students) ECUST – 2015

SKILLS

Programming Languages: Python, MATLAB, C, bash, C++, Java, L^AT_EX, SQL

Toolkits and Libraries: PyTorch, Allennlp, Fairseq, Moses, NLTK, Sklearn, Keras, TensorFlow, PyQt, MySQLdb