Xuan Zhang

Contact Information
Email: xuanzhang@jhu.edu
Webpage: http://www.cs.jhu.edu/~xzhan138/
Github: https://github.com/Este1le/

Research Interest
Natural language processing (with a particular interest in sign language and neural machine translation), hyper-parameter optimization

Education
Johns Hopkins University (JHU) Baltimore, Maryland, USA
Ph.D. Computer Science Sep. 2019 - Present
Advisor: Kevin Duh

Johns Hopkins University Baltimore, Maryland, USA
M.S. Computer Science Sep. 2016 - May. 2018

University of Electronic Science and Technology of China (UESTC) Chengdu, China
B.S. Information Security (Rank 1 of 166) Sep. 2012 - Jun. 2016

Book Chapters
Xuan Zhang, Kevin Duh (in progress). Sign Language Gloss Translation In A. Way, L. Leeson, D. Shterionov & C. Rathmann (Eds.), Sign Language Machine Translation. Springer. 2023

Publications
Xuan Zhang, Kevin Duh, Paul McNamee. A Hyperparameter Optimization Toolkit for Neural Machine Translation Research Proc. of ACL 2023, Toronto, Canada

Kiron Deb,* Xuan Zhang,* Kevin Duh. Post-Hoc Interpretation of Transformer Hyperparameters with Explainable Boosting Machines Proc. of BlackboxNLP@EMNLP 2022

Xuan Zhang, Kevin Duh. Approaching Sign Language Gloss Translation as a Low-Resource Machine Translation Task Proc. of AT4SSL@MTSummit 2021

Xuan Zhang, Kevin Duh. Reproducible and Efficient Benchmarks for Hyperparameter Optimization of Neural Machine Translation Systems. TACL, Vol. 8, 2020

Jason Naradowsky, Xuan Zhang, Kevin Duh. Machine Translation System Selection from Bandit Feedback. Proc. of AMTA 2020

Xuan Zhang,* Brian Thompson,* Rebecca Knowles,* Huda Khayrallah, Kevin Duh, Philipp Koehn. HABLex: Human Annotated Bilingual Lexicons for Experiments in Machine Translation. Proc. of EMNLP-IJCNLP 2019, Hong Kong, China.

Xuan Zhang, Pamela Shapiro, Gaurav Kumar, Paul McNamee, Marine Carpuat, Kevin Duh. Curriculum Learning for Domain Adaptation in Neural Machine Translation Proc. of NAACL-HLT 2019, Minneapolis, Minnesota.
Xuan Zhang, Gaurav Kumar, Huda Khayrallah, Kenton Murray, Jeremy Gwinnup, Marianna Martindale, Paul McNamee, Kevin Duh and Marine Carpuat. **An Empirical Exploration of Curriculum Learning for Neural Machine Translation**

*arXiv preprint 2018*

Hirofumi Inaguma, Xuan Zhang, Zhiqi Wang, Adithya Renduchintala, Shinji Watanabe, Kevin Duh. **The JHU/KyotoU Speech Translation System for IWSLT 2018**

*Proc. of IWSLT 2018, Bruges, Belgium.*

**TALKS**

**Tutorial**

Kevin Duh, Xuan Zhang. **AutoML for Natural Language Processing.**

*EACL 2023, Dubrovnik, Croatia.*

Kevin Duh, Xuan Zhang. **AutoML for Neural Machine Translation.**

*AMTA 2022, Orlando, Florida.*

**RESEARCH EXPERIENCE**

**Microsoft Research Asia**

Research Intern Beijing, China

Advisor: Fangyun Wei, Yu Wu

- Worked on unsupervised sign language representation learning and sign language translation.

**Microsoft Research** Redmond, USA

Research Intern June. 2020 - Aug. 2020

Advisor: Xiaodong Liu, Hoifung Poon, Hao Zhu

- Worked on knowledge-base based language model pre-training.

**Center for Language and Speech Processing, JHU** Baltimore, USA

Research Assistant Jan. 2018 - Present

Advisor: Kevin Duh

- Currently working on sign language processing.
- Worked on hyper-parameter optimization for neural machine translation models.
- Worked on curriculum learning for neural machine translation and domain adaption (co-advised by Marine Carpuat, University of Maryland).

**HONORS AND AWARDS**

- 2023-2024 JHU+Amazon AI²AI fellowship 2023
- Outstanding Graduate of Sichuan Province (Top 1 out of 551) 2016
- National Scholarship (Top 1 out of 166) 2013, 2014
- Tang Lixin Scholarship (Top 1 out of 551) 2013
- CS Outstanding Student Award (Top 1 out of 166) 2013

**PROFESSIONAL SERVICE**

**Reviewer:**

- Computational Linguistics 2023
- ACL Rolling Review 2022
- EMNLP, AACL-IJCNLP, WMT, AAAI 2020
- EMNLP, WMT 2019

**Teaching Assistant:**

- Machine Learning (CS 475/675), JHU 2022

**Course Assistant:**

- Machine Learning (CS 475/675), JHU 2018