Xuan Zhang

**Contact Information**
Email: xuanzhang@jhu.edu
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Github: [https://github.com/Este1le/](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)**
Ph.D. Computer Science
Advisor: Kevin Duh
Baltimore, Maryland, USA
Sep. 2019 - Present

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

**University of Electronic Science and Technology of China (UESTC)**
B.S. Information Security (Rank 1 of 166)
Chengdu, China
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. Handshape-Aware Sign Language Recognition: Extended Datasets and Exploration of Handshape-Inclusive Methods
*Proc. of EMNLP 2023, Singapore*

Xuan Zhang, Navid Rajabi, Kevin Duh, Philipp Koehn. Machine Translation with Large Language Models: Prompting, Few-shot Learning, and Fine-tuning with QLoRA
*Proc. of WMT 2023, Singapore*

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

Xuan Zhang,* Kiron Deb,* 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
Advisor: Fangyun Wei, Yu Wu
• Worked on unsupervised sign language representation learning and sign language translation.

Microsoft Research
Research Intern
Advisor: Xiaodong Liu, Hoifung Poon, Hao Zhu
• Worked on knowledge-base based language model pre-training.

Center for Language and Speech Processing, JHU
Research Assistant
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

Resumé
October 10, 2023  Xuan Zhang · Résumé
ACL Rolling Review 2022
EMNLP, ACL-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