

# ZECONG HU

Graduating 2020 Fall. Looking for Software Engineering Positions.

@ huzecong@gmail.com (412) 726-0707 zecong.hu/ /in/zecong-hu @huzecong Zecong Hu

## EXPERIENCE

### Software Engineer Intern

**Petuum, Inc.**

May 2019 – Aug 2019 Pittsburgh, PA

- Led a team of 4 in the development of Texar-PyTorch, an open-source machine learning toolkit; proposed coding guidelines and was in charge of quality assurance and code review.
- Designed the overall architecture of Texar-PyTorch, and contributed more than 30% of the entire code base.
- Contributed to the design and development of an internal NLP pipeline tool.

### Graduate Research Assistant

**Language Technologies Institute, Carnegie Mellon University**

Aug 2018 – Ongoing Pittsburgh, PA

- Proposed a neural language model utilizing knowledge base relations to generate Wikipedia articles. Achieved state-of-the-art results over strong baselines on a large-scale open-domain dataset.
- Built a neural system for quality estimation (QE) of machine-translated text. The system was ranked 2nd on the WMT 2019 En-De sentence-level QE shared task.

## PROJECTS

### Texar-PyTorch

**An open-source toolkit for machine learning and text generation**

Apr 2019 - Aug 2019 [asym1/texar-pytorch](#)

- Developed a machine learning toolkit in Python focused on neural methods for natural language processing, based on PyTorch.
- Open-sourced project on GitHub, gaining over 300 stars.

### MercuryJson

**Super-fast JSON parsing with SIMD and multi-threading**

Apr 2019 - May 2019 [Somefive/MercuryJson](#)

- Built a fast, parallel JSON parser in C++17, achieving 1.29x speedup compared to the state-of-the-art parser `simdjson`.
- Combined `simdjson`'s two-stage parsing approach with a push-down automata accepting partial JSON strings, which allowed the parser to run in parallel over arbitrarily chunked inputs.
- Course project for CMU 15-618: *Parallel Computer Architecture and Programming*. Received full credits.

### Weibo Analyst

**A modern web app to analyze Weibo posts using NLP tools**

Feb 2017 - Jun 2017

- Implemented a responsive frontend using AngularJS.
- Designed and coded the backend framework with Flask and MongoDB, and integrated NLP tools as framework extensions.
- Built a distributed work queue with Celery and RabbitMQ.

## EDUCATION

### M.S. in Language Technologies

**School of Computer Science, Carnegie Mellon University**

Aug 2018 – Aug 2020 (expected)  
Pittsburgh, PA

GPA: 4.00/4.33 Advisor: Graham Neubig

### B.Eng. in Computer Science

**Tsinghua University**

Aug 2014 – Jul 2018  
Beijing, China

Major GPA: 90/100 Ranking: 32/152

## AWARDS & HONORS

**First Place**  
Bloomberg CodeCon, 2019

**Grand Prize**  
InnovateAsia FPGA Design Contest, 2016

**Gold Medal**  
ACM/ICPC Asia Regional Contest, Mudanjiang Site, 2014

**Outstanding Graduate Award**  
Tsinghua University, 2018

**Award for Excellent Leadership in Student Organizations**  
Tsinghua University, 2017

## PUBLICATIONS

- Stack-Pointer Networks for Dependency Parsing  
Xuezhe Ma, **Zecong Hu**, Jingzhou Liu, Nanyun Peng, Graham Neubig, Eduard Hovy  
**ACL 2018**, Oral presentation
- SOURCE: Source-Conditional ELMo-Style Model for Machine Translation Quality Estimation  
Junpei Zhou\*, Zhisong Zhang\*, **Zecong Hu\***  
**WMT 2019**, 2nd place in QE shared task

## SKILLS

Languages: C/C++ Python Java  
JavaScript Rust CUDA Bash

Tools & Frameworks: Git  $\LaTeX$  PyTorch  
OpenCV TensorFlow