

Han Guo

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Education

University of North Carolina at Chapel Hill

B.S. IN COMPUTER SCIENCE AND STATISTICS

Chapel Hill, NC

2016 - Exp. 2020

- GPA 3.79
- Advisor *Prof. Mohit Bansal* (UNC-NLP Group)
- **Notable UNC Coursework:** Natural Language Processing (graduate), Statistical Machine Learning, Algorithm and Analysis, Probability, Linear Algebra, Data Structures, Data Analysis, Optimization, Web Programming.
- **Notable Independent Coursework:** Natural Language Processing (Stanford CS224), Computer Vision (Stanford CS231), Reinforcement Learning (UCL COMPM050), Deep Reinforcement Learning (Berkeley CS294).

Publications

Dynamic Multi-Level Multi-Task Learning for Sentence Simplification [\[pdf\]](#)

Han Guo, Ramakanth Pasunuru, and Mohit Bansal.

Proceedings of COLING 2018, Santa Fe, New Mexico, ([“Area Chair Favorites” Paper Award](#)).

Soft, Layer-Specific Multi-Task Summarization with Entailment and Question Generation [\[pdf\]](#)

Han Guo, Ramakanth Pasunuru*, and Mohit Bansal.*

Proceedings of ACL 2018, Melbourne, Australia.

Interactive-Length Multi-Task Video Captioning with Cooperative Feedback [\[link\]](#)

Han Guo, Ramakanth Pasunuru, and Mohit Bansal.

Proceedings of NIPS 2017, Long Beach, CA (demo papers).

Towards Improving Abstractive Summarization via Entailment Generation [\[pdf\]](#)

Ramakanth Pasunuru, Han Guo, and Mohit Bansal.

Proceedings of Workshop on Summarization Frontiers, EMNLP 2017, Copenhagen, Denmark.

Research Experience

Research Assistant

UNC DEPARTMENT OF COMPUTER SCIENCE

Chapel Hill, NC

2017.6 - PRESENT

- Advised by Professor Mohit Bansal on Natural Language Processing and Deep Learning.
- Developed deep learning systems for improving textual generation/classification models using multi-task learning and multi-armed bandit (Python, Tensorflow, Shell, Docker, Kubernetes, SLURM, Singularity).
- Developed interactive demonstrations of state-of-the-art NLP models exhibited at NIPS-2017 and various CS-department out-reach events (Python, Tensorflow, Javascript, HTML, CSS).

Research Assistant

UNC DEPARTMENT OF MATHEMATICS

Chapel Hill, NC

2017.2 - 2017.6

- Advised by Dr. Shi on data analytics on Wikipedia Talk Dataset and Amazon Book Review.
- Parsed Wikipedia talk page dump (100GB+), and used TF-IDF, logistic regression and multi-layer perceptron for sentiment analysis, with computations parallelized across multiple machines (200+) (Python, Tensorflow, SLURM).
- Used fastText/GLOVE word-vectors and t-SNE to visualize the evolution of conversation in Wikipedia Talk Page (Python, Tableau).

Undergraduate Learning Assistant

UNC DEPARTMENT OF COMPUTER SCIENCE

Chapel Hill, NC

2017.2 - 2017.5

- Held office hours and provided assistance to students taking COMP116 "Introduction to Scientific Computing" course (MATLAB).

Awards

2018.6 **Area Chair Favorites Paper Award, COLING 2018**

2018.5 **ACL Travel Award** Travel award from a National Science Foundation Grant, and the ACL Walker Fund, for presenting at Annual Meeting of the Association for Computational Linguistics (ACL 2018)

2017.11 **OUR Travel Award** Travel award from Office of Undergraduate Research for presenting at Neural Information Processing System (NIPS 2017)

Skills

Proficiency in Python, Tensorflow, Shell, R. **Familiarity** in Matlab, HTML, CSS, JavaScript, Java, C, Tex, Docker, Kubernetes, SLURM, Singularity, Git, Tableau.

Projects

TF-Library [\[link\]](#)

- Developed a Python library (with more than 10K lines of Python code) that implements various deep learning models (Transformer, Pointer Network, DDPG, etc), flexible base modules (extensions of Deepmind's sonnet.modules, etc) and utility functions (simple multi-GPU grid-search hyper-parameter tuning, etc) in Tensorflow with unit-tests and Docker integration.

UNC-NLP Group Page [\[link\]](#)

- Developed the webpage for our UNC-NLP research group (Javascript, HTML, CSS, Bootstrap).

Image Captioning [\[link\]](#)

- Implemented the image captioning model "Show, Attend and Tell" using Tensorflow and matched the results of the original work.

Image Style Transfer Using Deep Learning [\[link\]](#)

- Used convolutional neural networks to stylize an image using the style of another image
- Wrote a [blog post](#) on the image style transfer.

Twitter Bot [\[link\]](#)

- Used Python and Twitter API to implement simple Twitter bot that reads tweet feeds from my personal account, and retweet relevant tweets based on various text classification tools from Google Cloud Engine.

Other Experiences

Data Analytics

Shanghai, China

TUCK IN (STUDENT ORGANIZATION)

2015 - 2016

- Worked in a 10-member group, and collected over 1,800 data on performance indicators of high school student organizations in Shanghai, China.
- Performed basic data analytics, and visualized the results using Tableau and R.
- Presented the final work online and in high schools / events, and received 3,000+ page views (online) and 300 audience (offline).

Voluntary Experience

Shanghai, China

TUCK IN (STUDENT ORGANIZATION)

2014 - 2016

- Chaired the student organization Tuck In from 2014.7 to 2015.12.
- Tuck In Initiated 9 events, achieved in total 1700 attendees, brought art education to approximately 200 kids, and made donation to local education institution and NGO in Kenya.
- Tuck In was reported by Liberation Daily, Shanghai News, Shanghai Student Post, Eastday etc.

Public Speaker

Shanghai, China

TUCK IN (STUDENT ORGANIZATION)

2015 - 2016

- Invited speaker as Tuck In chair at 6 middle schools, university, TEDx Weiyu, Citic Bank, Hugh O'Brian Youth Leadership China seminar, etc.
- Invited guest at Shanghai Media Group.