

# Weiqiu You

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## Research Interests

Natural language processing, natural language generation, machine translation, low-resource languages

## Education

**M.S. in Computer Science, University of Massachusetts, Amherst** GPA: 3.95/4.00 Sep. 2018 – May 2020

- Advisor: Prof. Mohit Iyyer
- Thesis: Hard-Coded Gaussian Attention for Neural Machine Translation and Other NLP Tasks

**B.S. in Computer Science & Mathematics, Gordon College** GPA: 3.87/4.00 Sep. 2014 – May 2018

- Advisor: Prof. Jonathan Senning, Prof. Russell Bjork
- Thesis: Predict Media Interestingness (*The only Honors Thesis in CS department in five years*)

**Study Abroad: Aquincum Institute of Technology, Budapest, Hungary** GPA: 4.00/4.00 Aug. – Dec. 2017

## Publication

Hard-Coded Gaussian Attention for Neural Machine Translation *Under Review ACL 2020*  
**Weiqiu You\***, Simeng Sun\*, Mohit Iyyer \* equal contribution

## Research Experience

**Research Assistant, University of Massachusetts, Amherst** Advisor: Prof. Mohit Iyyer Jan. 2019 – Present

- **Transformer with Hard-Coded Attention**
  - Modified multi-headed attention to hard-coded Gaussian attention Aug. – Dec. 2019
  - Reduced memory and inference time speed without much BLEU drop
- **RNN Machine Translation Faster Decoder**
  - Generate a fixed span of words at a time to speed up decoder Jan. – Jun. 2019
  - Tried to add syntax to improve performance. Proved that it will slow down the model

**Research Intern, NLP Center, Meituan-Dianping Inc., Beijing, China** Advisor: Dr. Zhongyuan Wang Jun. – Aug. 2018

- **Key phrase extraction**
  - Literature review in short text summarization and key phrase extraction
  - Used rule-based methods, statistics based methods, and deep learning models (CSDDM) in Python to successfully extract key phrases for customer QA data

## Selected Course Research Projects

**Scientific Paper Task, Problem and Contribution Identification and Tracking** Sep. – Dec. 2019

- Implemented candidates extraction by rules
- Fine-tuned SciBERT on sentences that contain datasets to identify candidates that are true datasets

**Chinese to English Machine Translation Specialized in Game of Go and Cooking Recipe (Low-Resource Setting)** Sep. – Dec. 2018

- LSTM machine translation with Data augmentation by concatenating specialized terms in the dictionary
- Improved BLEU metric for comparison in specialized fields

## Professional Experience

**Teaching Assistant, Math and Computer Science Department, Gordon College** Jan. 2016 – May 2018

- Led lab sessions for Data Structures and Algorithms
- Held Q&A sessions for Calculus and SPSS in Biostatistics
- Graded for Calculus II and Differential Equations

**Web Development Intern, Gordon College**

- Developed a quizzer website (using Ruby on Rails) for professor of Biblical studies Jun. – Jul. 2016
- Frontend and backend development for Gordon College's student life website (using C# & ASP.NET). Jun. – Aug. 2017

## Technical Skills

**Programming Language** Python, Java, C++, C#, JavaScript, Ruby, Prolog **Framework** PyTorch, ASP.NET, Ruby on Rails

## Language Skills

**Fluent:** Chinese, English **Intermediate:** Japanese (N2) **Beginner:** Hungarian

## Leadership Experiences

**Founder and President, Gordon College Go Club** Apr. 2016 – May 2018