

XIAOHAN DING

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EDUCATION

- M.S. in Computer Science, **University of Massachusetts Amherst** 2018-present
Selected Coursework: Neural Networks: Modern Introduction, Machine Learning,
Ethical Considerations and Computing , Deep Learning/Natural Language Processing,
Probabilistic Graphical Models, Reinforcement Learning
- B.A in Computer Science , **Rose-Hulman Institute of Technology** Cum Laude 2011-2015

RESEARCH

- Analyzing the BlackLivesMatter movement through Tweets** Jan 2019 - May 2019
University of Massachusetts Amherst
- Created LDA models to capture topics in the tweets, and modeled the topic changes throughout time.
 - Created contextual word embeddings to extract semantic features from the tweets.
 - The result of the current work shown that we can capture the development of the BlackLivesMatter hashtag with topic modeling.
- Speech Recognition Automatic Error Correction - Amazon Alexa** May 2019 - Aug 2019
Applied Scientist internship at Amazon.com
- Created transformer based deep neural networks model to automatically correct Alexa speech transcription error.
 - Created new text representation to improve the model performance.
 - Improved word error rate (WER) on production dataset by 3%.

WORK EXPERIENCE

- Software Development Engineer II - Amazon AppStore** Jan 2018 - Aug 2018
Amazon.com
- Developed a new reward platform for all Amazon App developers to engage and retain digital customers worldwide.
- Software Development Engineer I, II - Alexa** Jun 2016 - Jan 2018
Amazon.com
- Significantly improved Alexa iOS app, Android app, and the website's security level.
 - Decentralized the Alexa mobile app and website platform traffic handling logic, designed and implemented a scaling plan end to end, significantly improved the scalability of the Alexa app platform.
- Software Development Engineer I - Amazon Fresh** Aug 2015 - May 2016
Amazon.com
- Designed and implemented logic to generate consistent and updated price per unit information for all Amazon Fresh item on the past purchase page.

PROJECTS

- Symbolic Music Generation with Ensemble Neural Networks Models** Nov 2018 - Dec 2018
University of Massachusetts Amherst
- Designed and implemented an ensemble of two LSTM models and two linear models to generate four part string quartet music scores of any length in the style of Joseph Haydn.
 - Designed a loss function for learning evaluation.
 - Implemented the model architecture, training and evaluation architecture end to end in PyTorch.

University of Massachusetts Amherst

- Proposed, designed and implemented an attention based neural language model to translate text from German to English with with explicit syntactic information about the sentence, such as Parts-of-Speech (POS) tags.
- Improved BLEU score on the test dataset from 27.4 to 28.8

ACADEMIC HONORS

ROSE-HULMAN DEANS LIST Fall, Winter, Spring 2011 - 2012
 Winter, Spring 2012 - 2013
 Fall, Winter 2013 - 2014
 Fall, Winter, Spring 2014 - 2015

UPSILON PI EPSILON MEMBER Rose-Hulman Chapter 2013 - 2014

UPSILON PI EPSILON PRESIDENT Rose-Hulman Chapter 2014 - 2015

ORGANIZATION ACTIVITIES AND COMMUNITY SERVICE

Webinar with Gayle Laakmann McDowell November 2014

Rose-Hulman Institute of Technology, IN

- Organized a one hour and half webinar with the Author of Creaking the Coding Interview for Rose-Hulman students.
- Ms.McDowell gave an hour talk about the technical interview process and how to prepare for the interviews.
- Students asked questions in the Q & A session followed the talk. More than 70 students attended the event.

Computer Science Summer Internship panel March 2015

Rose-Hulman Institute of Technology, IN

- Invited 5 senior CSSE students with extensive summer internship experience to share lessons on how to choose an internship and how to be successful at an internship.
- More than 50 students attended the event.

Seattle Amazonian Chinese League - Self-organized Group March 2015 - August 2017

Seattle, WA

- Organized three networking events in December 2015, March 2016, and May 2016 for Seattle Amazon Employees.
- The networking events provided opportunities for employees to gain insights on projects being developed at various organizations across Amazon.
- More than 100 Employees attended each networking event.
- Organized a professional development event in June 2016. Invited a employee with 10+ years of experience in Amazon to share lessons.
- More than eighty employees attended the professional development event and more than twenty employees watched live video streaming online.

Walk for Rice June 2017, 2018

Asian Counseling and Referral service, Seattle

- Volunteered at the charity event for fighting hunger in the Asian American Pacific Islander community.
- Led a team of 20+ people to participate in the event.

EXTRACURRICULAR ACTIVITIES

DELTA DELTA DELTA FRATERNITY Member, 2011 - 2015

AMAZON SOCIETY OF WOMEN ENGINEERS Member, 2016 - August 2018