

# Yuntian DENG

Google Scholar◊ Personal Website

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## Education

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### Harvard University

*Aug 2017 - Present*

Ph.D in Computer Science

Advisors: Alexander Rush & Stuart Shieber

### Carnegie Mellon University

*Aug 2014 - Aug 2016*

Master in Language Technologies

Advisor: Eric P. Xing

### Tsinghua University, China

*Aug 2010 - Jul 2014*

Bachelor of Engineering, Department of Automation

GPA: 92/100 Rank: 2/128

## Industry Experience

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Part-time Intern, Facebook AI Research

Sep 2019 - Dec 2019

Research Intern, Facebook AI Research

May 2019 - Aug 2019

Summer Intern, CTO Office, Bloomberg LP

May 2017 - Aug 2017

Senior Technology Consultant, CTO Office, Bloomberg LP

Jan 2017 - May 2017

## Publications

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- 21 Justin Chiu\*, **Yuntian Deng**\*, Alexander Rush. Low-Rank Constraints for Fast Inference in Structured Models. *NeurIPS 2021* \*Equal contribution
- 20 **Yuntian Deng**, Alexander Rush. Sequence-to-Lattice Models for Fast Translation. *EMNLP 2021 Findings*
- 19 Keyon Vafa, **Yuntian Deng**, David Blei and Alexander Rush . Rationales for Sequential Predictions. *EMNLP 2021 oral*
- 18 **Yuntian Deng**, Alexander Rush. Cascaded Text Generation with Markov Transformers. *NeurIPS 2020*
- 17 Anton Bakhtin\*, **Yuntian Deng**\*, Sam Gross, Myle Ott, Marc'Aurelio Ranzato, Arthur Szlam. Residual Energy-Based Models for Text . *JMLR 2021* \*Equal contribution
- 16 **Yuntian Deng**, Anton Bakhtin, Myle Ott, Arthur Szlam, Marc'Aurelio Ranzato. Residual Energy-Based Models for Text Generation. *ICLR 2020*

- 15 Anton Bakhtin, Sam Gross, Myle Ott, **Yuntian Deng**, Marc'Aurelio Ranzato, Arthur Szlam. Real or Fake? Learning to Discriminate Machine from Human Generated Text. *arXiv 1906.03351*
- 14 Thierry Tambe, En-Yu Yang, Zishen Wan, **Yuntian Deng**, Vijay Janapa Reddi, Alexander Rush, David Brooks, Gu-Yeon Wei. Algorithm-Hardware Co-Design of Adaptive Floating-Point Encodings for Resilient Deep Learning Inference. *Design Automation Conference (DAC) 2020 **Best Paper Award***
- 13 Zachary Ziegler\*, **Yuntian Deng\***, Alexander Rush. Neural Linguistic Steganography. *EMNLP 2019 **oral*** \*Equal contribution. (**Demo:** [steganography.live](http://steganography.live))
- 12 **Yuntian Deng**, David Rosenberg, Gideon Mann. Challenges in end-to-end neural scientific table recognition. *ICDAR 2019*
- 11 Ran Zhao, **Yuntian Deng**, Mark Dredze, Arun Verma, David Rosenberg, Amanda Stent. Visual Attention Model for Cross-sectional Stock Return Prediction and End-to-End Multimodal Market Representation Learning. *FLAIRS 2019*
- 10 **Yuntian Deng\***, Yoon Kim\*, Justin Chiu, Demi Guo, Alexander M. Rush. Latent Alignment and Variational Attention. *NeurIPS 2018* \*Equal contribution.
- 9 Sebastian Gehrmann, **Yuntian Deng**, Alexander M. Rush. Bottom-Up Abstractive Summarization. *EMNLP 2018*
- 8 **Yuntian Deng**, Anssi Kanervisto, Jeffrey Ling, Alexander M. Rush. Image-to-Markup Generation with Coarse-to-Fine Attention. *ICML 2017* (**Demo:** [lstm.seas.harvard.edu/latex](http://lstm.seas.harvard.edu/latex))
- 7 Pengtao Xie, **Yuntian Deng**, Yi Zhou, Abhimanu Kumar, Yaoliang Yu, James Zou, Eric P Xing. Learning Latent Space Models with Angular Constraints. *ICML 2017*
- 6 Guillaume Klein, Yoon Kim, **Yuntian Deng**, Jean Senellart, Alexander M Rush. OpenNMT: Open-Source Toolkit for Neural Machine Translation. *ACL 2017 **Best Demo Paper Award Runner-Up***
- 5 Zichao Yang, Zhiting Hu, **Yuntian Deng**, Chris Dyer, Alex Smola. Neural Machine Translation with Recurrent Attention Modeling. *EACL 2017*
- 4 Xuezhe Ma, Yingkai Gao, Zhiting Hu, Yaoliang Yu, **Yuntian Deng**, Eduard Hovy. Dropout with expectation-linear regularization. *ICLR 2017*
- 3 Hao Zhang, Zhiting Hu, **Yuntian Deng**, Mrinmaya Sachan, Zhicheng Yan, Eric P. Xing. Learning Concept Taxonomies from Multi-modal Data. *ACL 2016*
- 2 Pengtao Xie, **Yuntian Deng**, Eric P. Xing. Diversifying Restricted Boltzmann Machine for Document Modeling. *KDD 2015*
- 1 Zhiting Hu, Poyao Huang, **Yuntian Deng**, Yingkai Gao, Eric P. Xing. Entity Hierarchy Embedding. *ACL 2015*

## Teaching Experience

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Head TA, Intro to Computational Linguistics and NLP (Stuart Shieber)	Aug 2021 - Present
Lab Material Preparation, Cornell Break Through AI (Alexander Rush)	Aug 2021
Head TA, Intro to Computational Linguistics and NLP (Stuart Shieber)	Aug 2020 - Dec 2020
TA, Natural Language Processing (Alexander Rush)	Jan 2019 - May 2019
Lecture, Natural Language Processing - Translation (Alexander Rush)	Feb 13, 2019
TA, Advanced Machine Learning (Alexander Rush)	Aug 2017 - Dec 2017
TA, Graduate Probabilistic Graphical Models (Matthew Gormley, Eric Xing)	Jan 2016 - May 2016
TA, Graduate Machine Learning (Ziv Bar Joseph, Eric Xing)	Aug 2015 - Dec 2015

## Professional Service

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2021: Expert Reviewer of ICML, Oral Session Volunteer of ACL, Reviewer of NeurIPS, ACL, ICLR, AAAI, EACL, NAACL, ML Reproducibility Challenge, ICLR 2021 EBM Workshop, IEEE TIIS, NEJLT. Volunteer of NeurIPS, EMNLP

2020: Top 10% Reviewer of NeurIPS, Reviewer of ICML, ACL, EMNLP, AACL, AAAI, ACL Demonstration Track, COLING, IEEE TIFS, Transactions on Information Systems, Journal of Computer Science and Technology, volunteer of ICML, volunteer moderator of ACL.

2019: Reviewer of NeurIPS, EMNLP, ICLR, NAACL, AAAI, IEEE TNNLS, ACM Computing Surveys, NeurIPS LIRE Workshop, NeurIPS Reproducibility Challenge, EMNLP Summarization Workshop, ICML GraphReason Workshop, ICLR DeepGenStruct Workshop.

2018: Reviewer of ICLR.

2017: Program Committee of ICML TADGM workshop.

2016: Volunteer of ICML.

## Community Service

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Childcare Chair at NAACL 2022	2021
Mentor of Harvard Women in CS (in charge of NLP bi-weekly meetings)	Sep 2020 - Present
Volunteer TA at Revere High School through Microsoft Philanthropies	Sep 2020 - May 2021

## Awards and Honors

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Harvard Certificates of Distinction in Teaching	Fall 2020
Twitch Fellowship Finalist	Dec 2020
NeurIPS 2020 top 10% reviewer	Oct 2020
DAC 2020 Best Paper Award	Jul 2020

Citadel Boston Regional Datathon 2nd place	Oct 2019
Harvard Certificates of Distinction in Teaching	Sep 2019
Baidu Scholarship (10 laureates/year)	Feb 2019
French American Doctoral Exchange Program (Embassy of France, 10 laureates/year)	Jul 2018
ACL 2017 Best Demo Paper Award Runner-up	Aug 2017
Evergrande Real Estate Group Scholarship	Nov 2013
Samsung SK Scholarship	Nov 2012
Chinese National Scholarship	Nov 2011

## Talks

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EMNLP 2021 Findings: Sequence-to-Lattice Models for Fast Translation	Oct 2021, remote
OpenAI: Residual Energy-based Models for Text Generation	Apr 2021, remote
NeurIPS 2020: Cascaded Text Generation with Markov Transformers	Oct 2020, remote
Baidu: Cascaded Text Generation with Markov Transformers	Jun 2020, remote
ICLR 2020: Residual Energy-based Models for Text Generation	Apr 2020, remote
LinkedIn: Residual Energy-based Models for Text Generation	Mar 2020, remote
Wayfair: Neural Encoder-Decoder Models	Nov 2019, Boston, MA
EMNLP2019: Neural Linguistic Steganography	Nov 2019, Hong Kong
FAIR NLP Meeting: Energy-Based Models for Text Generation	Aug 2019, New York City, NY
NeurIPS 2018: Variational Attention	Dec 2018, Montreal, Canada
The French National Center for Scientific Research: Variational Attention	Jul 2018, France
Association for Machine Translation in the Americas: OpenNMT	Mar 2018, Boston, MA
Open-Source Neural Machine Translation Workshop: Image-to-Text	Mar 2018, Paris, France
Tencent Social Network Group TSAIC: OpenNMT	Dec 2017, Shenzhen, China
ICML: Image-to-Markup Generation	Aug 2017, Sydney, Australia

## Open Source Projects

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Cascaded Generation (117 Github stars)	PyTorch
Neural Linguistic Steganography (147 Github stars)	PyTorch
Variational Attention (311 Github stars)	PyTorch
Image-to-Markup Generation (925 Github stars)	LuaTorch

OpenNMT (5.1k Github stars)

PyTorch

Attention OCR (1.1k Github stars)

Tensorflow