

# JAY YOON LEE

Postdoctoral Research Associate, College of Information & Computer Sciences, UMass Amherst  
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## EDUCATION

**CARNEGIE MELLON UNIVERSITY, (CSD)** May.2013 – July.2020  
**Ph.D. in Computer Science (GPA: 3.95 / 4.3)** Advisor: Jaime Carbonell  
Jay-Yoon Lee, “*Injecting output constraints into neural NLP models,*” Ph.D. thesis,  
Committee: Jaime Carbonell, William Cohen, Graham Neubig, Yulia Tsvetkov, Dan Roth.

**CARNEGIE MELLON UNIVERSITY, (LTI & LCCB)** Sept.2011– May.2013  
**M.S. in Computer Science (GPA: 3.95 / 4.3)**

**KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY (KAIST)** Mar.2003 – 2008  
**B.S. in Electrical Engineering, *summa cum laude*, 2008 (GPA: 3.94 / 4.3)**

## RESEARCH EXPERIENCE

**Postdoctoral Research Associate** under Professor Andrew McCallum July.2020- Present  
Injecting known constraints to neural models; Energy-based models and Box representations that can automatically capture label dependencies and logical constraints.

**Research Assistant** under Professor Jaime Carbonell Oct.2015 –July.2020  
Semi-supervised learning for low-resource and domain transfer using constraint injection.  
Demand forecasting and part price prediction, *Boeing sponsored research*.

**Research Assistant** under Professor Christos Faloutsos June.2012 –Oct.2015  
Anomaly detection algorithm on large graphs. *DARPA ADAMS*.

## SELECTED PUBLICATIONS

1. **Jay-Yoon Lee\***, KyungTae Lim\*, Jaime Carbonell, Thierry Poibeau, *Semi-Supervised Learning on Meta Structure: Multi-Task Tagging and Parsing in Low-Resource Scenario*, **AAAI 2020** (\*: equal contribution)
2. **Jay-Yoon Lee**, Sanket Mehta, Michael Wick, Jean-Baptiste Tristan, Jaime Carbonell, *Gradient-based Inference for Networks with Output Constraints*, **AAAI 2019**
3. **Jay-Yoon Lee\***, Sanket Mehta\*, Jaime Carbonell, *Towards Semi-Supervised Learning for Deep Semantic Role Labeling*, **EMNLP 2018** (\*: equal contribution)
4. **Jay-Yoon Lee\***, Manzil Zaheer\*, Stephan Günnemann, Alex Smola, *Preferential Attachment in Graphs with Affinities*, **AISTATS 2015** (\*: equal contribution)
5. EunJeong Hwang, **Jay-Yoon Lee**, Tianyi Yang, Dhruvesh Patel, Dongxu Zhang, Andrew McCallum, *Event-Event Relation Extraction using Probabilistic Box Embedding*, **ACL 2022**
6. Dhruvesh Patel, Pavitra Dangati, **Jay-Yoon Lee**, Michael Boratko, Andrew McCallum *Modeling label space interactions in MLC using box embeddings*, **ICLR2022**
7. Zhiyang Xu, Andrew Drozdov, **Jay-Yoon Lee**, Tim O’Gorman, Subendhu Rongali, Dylan Finkbeiner, Shilpa Suresh, Mohit Iyyer, Andrew McCallum, *Improved Latent Tree Induction with Distant Supervision via Span Constraints*, **EMNLP 2021**
8. Vidhisha Balachandran, Artidoro Pagnoni, **Jay-Yoon Lee**, Dheeraj Rajagopal, Jaime G Carbonell, Yulia Tsvetkov, *StructSum: Summarization via Structured Representations*, **EACL 2021**
9. Rajarshi Das, Manzil Zaheer, Dung Thai, Ameya Godbole, Ethan Perez, **Jay-Yoon Lee**, Lizhen Tan, Lazaros Polymenakos, Andrew McCallum, *Case-based Reasoning for Natural Language Queries over Knowledge Bases*, **EMNLP 2021**

## TEACHING

**Teaching Assistant** for Multimedia Databases and Data Mining Fall 2014  
**Teaching Assistant** for Machine Learning (Ph.D. course) Spring 2015  
Deep Reinforcement Learning, Deep Learning, Statistical Machine Learning, Convex Optimization, Spectral Graph Theory, Intermediate Statistics, Multimedia Databases and Data Mining, Advanced Probability Overview

## GRADUATE COURSE

## INDUSTRY EXPERIENCE

**Google AI, New York, NY**, Tag-constrained Transformer for text normalization.  
*Research Internship* with Hao Zhang, *Language and Speech*, Oct.2019 – Jan.2020

**Microsoft Research, Redmond, WA**, Combinatorial action RL for task-oriented dialogue.  
*Summer Internship* with Sungjin Lee, Jianfeng Gao, *Deep Learning group* May.2019 – Aug.2019

**Microsoft Research, Redmond, WA**, Improving conversation using multiple metrics.  
*Summer Internship* with Paul Bennett, *Information and Data Sciences*, June.2017 – Aug.2017

**Oracle Labs, Burlington, MA**, Syntactic parsing with output constraint on seq2seq. *Summer Internship*, with Michael Wick, *IRML group*, June.2016 – Aug.2016

## HONORS & AWARDS

1. Scholarship in Science & Technology, Korea Student Foundation Mar.2003 – Feb.2008
2. Scholarship in Mathematics, Korea Foundation of Advanced Studies Mar.2005 – Feb.2008