**JAY YOON LEE**

Postdoctoral Research Associate, [College of Information & Computer Sciences](https://www.cics.umass.edu/), [UMass Amherst](https://www.cics.umass.edu/)

[leejayyoon.github.io](https://leejayyoon.github.io/), lee.jayyoon@gmail.com, [google scholar](https://scholar.google.com/citations?user=_USiaqwAAAAJ&hl=en&oi=ao), [curriculum vitae](https://leejayyoon.github.io/homepage_files/CV_jaylee.pdf)

**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)**

**RESEARCH EXPERIENCE**

**SELECTED**

**PUBLICATIONS**

**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)**

Jay-Yoon Lee, “Robust speech recognition using prediction methods based on Neural Networks”, Undergrad thesis, Thesis advisor: Chulhoon Park

**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*](https://www.cmu.edu/news/stories/archives/2015/october/boeing-analytics-lab.html)*.*

**Research Assistant** under Professor Christos Faloutsos June.2012 –Oct.2015 Anomaly detection algorithm on large graphs. [*DARPA ADAMS*](https://www.darpa.mil/program/anomaly-detection-at-multiple-scales)*.*

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*](https://arxiv.org/abs/2109.05112), **EMNLP 2021**
8. Vidhisha Balachandran, Artidoro Pagnoni, **Jay-Yoon Lee**, Dheeraj Rajagopal, Jaime G Carbonell, Yulia Tsvetkov,  [*StructSum: Summarization via Structured Representations*](https://arxiv.org/abs/2003.00576)*,* **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*](https://arxiv.org/abs/2104.08762)*,* **EMNLP 2021**

**TEACHING Teaching Assistant** for Multimedia Databases and Data Mining Fall 2014

**Teaching Assistant** for Machine Learning (Ph.D. course) Spring 2015

**GRADUATE**

**COURSE**

**INDUSTRY EXPERIENCE**

**HONORS &   
AWARDS**

Deep Reinforcement Learning, Deep Learning, Statistical Machine Learning, Convex Optimization, Spectral Graph Theory, Intermediate Statistics, Multimedia Databases and Data Mining, Advanced Probability Overview

**Google AI, New York, NY,** Tag-constrained Transformer for text normalization.

*Research Internship*, ***Language and Speech***, Oct.2019 – Jan.2020

**Microsoft Research, Redmond, WA,** Combinatorial action RL for task-oriented dialogue.

*Research Internship,* ***Deep Learning group*** May.2019 – Aug.2019

**Microsoft Research, Redmond, WA,** Improving conversation using multiple metrics.

*Research Internship*, ***Information and Data Sciences***, June.2017 – Aug.2017

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

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
3. Encouragment prize, 5th Nationwide mathematics competition, Korea University Aug .2002