Juyong Kim

GHC 8019, 5000 Forbes Ave, Pittsburgh PA 15213
Homepage: http://juyongkim.com Email: juyongk@cs.cmu.edu Google Scholar / GitHub

Education

Machine Learning Department, Carnegie Mellon University Aug. 2018 – Current
• Ph.D. candidate in Machine Learning
• Advisor: Prof. Pradeep Ravikumar, Prof. Jeremy C. Weiss (NIH)

Vision & Learning Lab., Seoul National University Mar. 2016 – Feb. 2018
• M.S. in Computer Science and Engineering
• Advisor: Prof. Gunhee Kim, Prof. Sungju Hwang

Seoul National University Mar. 2008 – Feb. 2015
• B.S. in Electrical and Computer Engineering (Summa Cum Laude)
• Received Best Engineering Graduate Student Award

Work and Research Experiences

Amazon May. 2024 – Aug. 2024
• Applied Scientist Intern
• Working on prompt tuning on multimodal multitask learning

Abridge Inc. May. 2021 – Aug. 2021
• NLP Research Intern
• Working on neural language generation with clinical conversation

Google Research May. 2020 – Aug. 2020
• Research Intern
• Working on compositional generalization tasks on NLP

AITRICS, Seoul, Korea Mar. 2018 – Jul. 2018
• Research Scientist Intern

Software Engineer (Alternative Military Service), Seoul, Korea Sep. 2011 – Jul. 2014
• Mobile Web & Windows (at IRLink) / Windows CE Application Development (at ITWell)

Research Interests

• Machine Learning, Clinical Natural Language Processing, Tabular Machine Learning, Computer Vision, Deep Learning Architectures

Publications

International Conference

• **Juyong Kim**, C. Squires, P. Ravikumar, "**Knowledge-Enriched Machine Learning for Tabular Data**", in *International Conference on Neuro-symbolic Systems (NeuS), Oral Presentation*, 2025.

• S. Shin, **Juyong Kim**, E. Halilaj, M. J. Black, "**WHAM: Reconstructing World-grounded Humans with Accurate 3D Motion**", in *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024.

• **Juyong Kim***, G. Frattallone-Llado*, C. Cheng, D. Salazar, S. Edakalavan, J. C. Weiss, "**Using Multimodal Data to Improve Precision of Inpatient Event Timelines**", in *Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*, 2024.

• W. Zhang, Z. Wang, **Juyong Kim**, C. Cheng, T. Oommen, P. Ravikumar, J. C. Weiss, "**Individual Fairness under Uncertainty**", in *European Conference on Artificial Intelligence (ECAI)*, 2023.

• **Juyong Kim**, A. Sharma, S. Shanbhogue, P. Ravikumar, and J. C. Weiss, "**AnEMIC: A Framework for Benchmarking ICD Coding Models**", in *Conference on Empirical Methods in Natural Language Processing (EMNLP, System Demonstrations)*, 2022.

• **Juyong Kim**, J. C. Weiss, P. Ravikumar, "**Context-Sensitive Spelling Correction of Clinical Text via Conditional Independence**", in *Conference on Health, Inference, and Learning (CHIL)*, 2022.

• **Juyong Kim**, P. Ravikumar, J. Ainslie, S. Ontañón, "**Improving Compositional Generalization in Classification Tasks via Structure Annotations**", in *Proceedings of the Association for Computational Linguistics (ACL)*, 2021 (Short Paper).

• **Juyong Kim**, L. Gong, J. Khim, J. C. Weiss, P. Ravikumar, "**Improved Clinical Abbreviation Expansion via Non-Sense-Based Approaches**", in *Machine Learning for Health (ML4H) NeurIPS Workshop*, 2020.

• **Juyong Kim**, Y. Park, G. Kim, S. Hwang, "***SplitNet*: Learning to Semantically Split Deep Networks for Parameter Reduction and Model Parallelization**", in *International Conference on Machine Learning (ICML)*, 2017.

• W. Goo, **Juyong Kim**, G. Kim, S. Hwang, "**Taxonomy-Regularized Semantic Deep Convolutional Neural Networks**", in *European Conference on Computer Vision (ECCV)*, 2016.

• J. Kim, **Juyong Kim**, S. You, Y. Oh, and S. Oh, "**Actionable Topological Mapping for Navigation Using Nearby Objects",** in *Proc. of the IEEE International Conference on Automation Science and Engineering (CASE),* 2012.

Honors and Awards

ILJU Overseas Ph.D. Scholarship Aug. 2018 – May. 2023
• Supporting outstanding Ph.D. students studying abroad.

Hyundai Motor Chung Mong-Goo Scholarship Mar. 2016 – Feb. 2018
• Full tuition & fees during my M.S. program.

NVIDIA Deep Learning Contest 2016 (Korea) Oct. 2016
• 2nd place in Free Topic.

Silver Prize in 25th Global Software Contest Exhibit Dec. 2013
• Hosted by Ministry of Science ICT and Future Planning, Korea.

National Science and Engineering Scholarship Mar. 2008 – Feb. 2015
• Full tuition & fees during my B.S. program, Funded by Korea Student Aid Foundation.

Service

Peer Reviewer
• Conferences: ACL-IJCNLP 2021, CHIL 2022, ML4H 2022, 2023
• Journals: ACL Rolling Review (Nov, Dec 2021, Jan, Apr, Oct, Dec 2022, Feb 2024)

Teaching Experiences & Extracurricular Activities

Teaching Assistant, Carnegie Mellon University
• 10-707 Advanced Deep Learning Spring, 2022
• 10-715 Advanced Introduction to Machine Learning Fall, 2019

Teaching Assistant, Seoul National University
• M1522.001000 Computer Vision Spring, 2016

Skills

Relevant Coursework
• **Machine Learning**: (CMU) Advanced Intro to ML, Advanced ML, Deep Reinforcement Learning, ML with Graphs, Theoretical and Empirical Foundations of Modern ML, Topics in Deep Learning, (SNU) Artificial Intelligence, Natural Language Processing, Probabilistic Graphical Models
• **Computer Vision**: (CMU) Learning-based Image Synthesis, (SNU) Intro to CV
• **Statistics & Optimization**: (CMU) Intermediate Statistics, Convex Optimization, ABCDE of Statistical Methods for ML, Foundations of Causal Inference, (SNU) Convex Optimization, Estimation Theory
• **Robotics & Control**: (SNU) Intro to Robot Engineering, Fundamentals of Control Engineering, Advanced Control Techniques
• **Mathematics & Algorithms**: (SNU) Linear Algebra for Electrical Systems, Programming Methodology, Data Structures and Algorithms, Genetic Algorithms

Programming Language/Library
• **Languages**: Python, C++, Java, MATLAB, Mathematica, SQL, Verilog
• **ML Frameworks**: TensorFlow, PyTorch, Transformers, OpenCV, Caffe, Theano
• **Development**: Web (Flask, Spring), Mobile (Android), Cloud (AWS/GCP), Git, Docker
• **Competitive Programming**: Codeforces Master (2100+ rating)

(Last update: 08/12/2025)