

Joon Sik Kim

Last Updated: April 17, 2024

Contact

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Academic History

Carnegie Mellon University Pittsburgh, PA
Doctor of Philosophy, Machine Learning
Thesis: Methods and Applications of Explainable Machine Learning
Advisor: Ameet Talwalkar

Carnegie Mellon University Pittsburgh, PA
Master of Science, Machine Learning (GPA 3.86/4.00)

California Institute of Technology Pasadena, CA
Bachelor of Science, Computer Science (GPA 4.0/4.3)

Employment History

DynamoAI San Francisco, CA
Machine Learning Research Scientist
Sep 2023 - Now

Microsoft Research Redmond, WA
Summer Research Intern
June 2021 - Aug 2021

J.P.Morgan New York, NY
Summer Intern at AI Research
May 2019 - Aug 2019

SK Inc. Seoul, South Korea
Machine Learning Research Intern
June 2017 - Aug 2017

Computer Vision Lab, California Institute of Technology Pasadena, CA
Undergraduate Research Student for Prof. Pietro Perona
July 2016 - Dec 2016

California Institute of Technology Pasadena, CA
Undergraduate Research Student for Prof. Yisong Yue
June 2015 - June 2016

California Institute of Technology Pasadena, CA
Undergraduate Research Student for Dr. Vasumathi Raman
July 2014 - Nov 2014

Criminal Investigation Command, Ministry of National Defense Seoul, South Korea
Soldier, Software Developer, Interpreter
Oct 2012 - July 2014

Laser Interferometer Gravitational-wave Observatory (LIGO) Pasadena, CA
Undergraduate Research Student for Dr. Parameswaran Ajith
Jan 2012 - Aug 2012

Publications¹

9. **Joon Sik Kim**, Valerie Chen, Danish Pruthi, Nihar Shah, Ameet Talwalkar. *Assisting Human Decisions in Document Matching*. Transactions on Machine Learning Research (TMLR), 2023.
8. Keegan Harris, Valerie Chen, **Joon Sik Kim**, Ameet Talwalkar, Hoda Heidari, Steven Wu. *Bayesian Persuasion for Algorithmic Recourse*. Neural Information Processing Systems (NeurIPS), 2022.
7. **Joon Sik Kim**, Gregory Plumb, Ameet Talwalkar. *Sanity Simulations for Saliency Methods*. International Conference on Machine Learning (ICML), 2022. (Spotlight)
6. Valerie Chen*, Jeffrey Li*, **Joon Sik Kim****, Gregory Plumb**, Ameet Talwalkar. *Interpretable Machine Learning: Moving From Mythos to Diagnostics*. ACM Queue 19.6 (2022): 28-56.
5. Kwangho Kim, Jisu Kim, Manzil Zaheer, **Joon Sik Kim**, Frederic Chazal, Larry Wasserman. *PLay: Efficient Topological Layer based on Persistence Landscapes*. Neural Information Processing Systems (NeurIPS), 2020.
4. **Joon Sik Kim**, Jiahao Chen, Ameet Talwalkar. *FACT: A Diagnostic for Group Fairness Trade-offs*. International Conference on Machine Learning (ICML), 2020.
3. David I. Inouye, Leqi Liu, **Joon Sik Kim**, Bryon Aragam, Pradeep Ravikumar. *Automated Dependence Plots*. Uncertainty in Artificial Intelligence (UAI), 2020.
2. Chih-Kuan Yeh*, **Joon Sik Kim***, Ian E.H. Yen, Pradeep Ravikumar. *Representer Point Selection for Explaining Deep Neural Networks*. Neural Information Processing Systems (NeurIPS), 2018.
1. Matteo Ruggero Ronchi, **Joon Sik Kim**, Yisong Yue. *A Rotation Invariant Latent Factor Model for Movement Discovery from Static Poses*. IEEE International Conference on Data Mining (ICDM), 2016.

Pre-prints

1. Valerie Chen, Muyu Yang, Wenbo Cui, **Joon Sik Kim**, Ameet Talwalkar, Jian Ma. *Best Practices for Interpretable Machine Learning in Computational Biology*. bioRxiv 2022.10.28.513978

Activities

Reviewer (FAccT 2023, ICML 2022, FAccT 2022, ICML 2021); Program Committee (Workshop on Fair AI in Finance, NeurIPS 2020).

Fellowships & Awards

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| Kwanjeong Foundation Graduate Research Fellowship | 2017 - 2021 |
| Caltech Bhansali Family Prize in Computer Science | 2017 |
| Caltech CMS Celebration of Undergraduate Research Best Demo/Poster Award | 2015 |
| Caltech Summer Undergraduate Research Fellowship | 2014, 2015, 2016 |
| Caltech Physics 11 Summer Undergraduate Research Fellowship | 2012 |

Teaching

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|---|-------------|
| 10-725 Convex Optimization (Carnegie Mellon University) | Spring 2023 |
| 10-737 Creative AI (Carnegie Mellon University) | Fall 2019 |

¹* indicates equal contribution; including conference workshop papers