

SouYoung Jin

Assistant Professor

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Experience

Computer Science, Dartmouth College

Assistant Professor

Hanover, NH, United States

Jan. 2023 - Present

Cognitive Science Program, Dartmouth College

Steering Committee

Hanover, NH, United States

Jan. 2024 - Present

Arthur L. Irving Institute for Energy & Society

Faculty Affiliate

Hanover, NH, United States

Oct. 2023 - Present

Computational Perception & Cognition Team, CSAIL, MIT

Postdoctoral Associate

Cambridge, MA, United States

Jan. 2020 - Dec. 2022

- Advisor: Prof. Aude Oliva
- Video understanding, multimodal learning

Computer Vision Lab, UMass Amherst

Research Assistant

Amherst, MA, United States

Sep. 2014 - Dec. 2019

- Advisor: Prof. Erik Learned-Miller
- Object detection, tracking, clustering in unlabeled videos

Visual Input Team, Microsoft, AI and Research

Research Intern

Redmond, WA, United States

May 2018 - Aug. 2018

- Mentor: Dr. Lei Zhang
- Learning to disentangle feature representations by interchanging attributes

Knowledge Engineering and Collective Intelligence Lab, KAIST

Research Assistant

Daejeon, South Korea

Sep. 2010 - Mar. 2014

- Advisor: Prof. Ho-Jin Choi
- Action recognition, multi-sensor surveillance system, natural language question & answering system

Education

University of Massachusetts Amherst (UMass Amherst)

PhD, College of Information and Computer Sciences (CICS)

Amherst, MA, United States

Sep. 2014 - Dec. 2019

- Advisor: Prof. Erik Learned-Miller
- Research Interests: unsupervised learning, movie/video understanding, common-sense reasoning

Korea Advanced Institute of Science and Technology (KAIST)

MS, Computer Science

Daejeon, South Korea

Sep. 2010 - Aug. 2012

- Advisor: Prof. Ho-Jin Choi

Dongguk University

BS, Computer Science Engineering

Seoul, South Korea

Mar. 2007 - Aug. 2010

- The early graduation of excellent students (3.5 years, 1/83)

Publications

- Wayner Barrios and **SouYoung Jin**. *Multi-layer learnable attention mask for multimodal task*. arXiv preprint 2024.

- Benjamin Lahner, Kshitij Dwivedi, Polina Iamshchinina, Monika Graumann, Alex Lascelles, Gemma Roig, Alessandro Thomas Gifford, Bowen Pan, **SouYoung Jin**, Ratan Murty, Kendrick Kay, Aude Oliva†, and Radoslaw Cichy†. **BOLD Moments: modeling short visual events through a video fMRI dataset and metadata**. bioRxiv preprint 2023.
- Bowen Pan, Rameswar Panda, **SouYoung Jin**, Rogerio Feris, Aude Oliva, Phillip Isola, and Yoon Kim. **Learning Human Action Recognition Representations Without Real Humans** North American Chapter of the Association for Computational Linguistics 2024. ([MIT News](#))
- Howard Zhong, Samarth Mishra, Donghyun Kim, **SouYoung Jin**, Rameswar Panda, Hilde Kuehne, Leonid Karlinsky, Venkatesh Saligrama, Aude Oliva, and Rogerio Feris. **Learning Human Action Recognition Representations Without Real Humans**. Neural Information Processing Systems Datasets and Benchmarks Track 2023
- Camilo Luciano Fosco, **SouYoung Jin**, Emilie L Josephs, and Aude Oliva. **Leveraging Temporal Context in Low Representational Power Regimes**. Computer Vision and Pattern Recognition (CVPR) 2023.
- Yo-whan Kim, Samarth Mishra, **SouYoung Jin**, Rameswar Panda, Hilde Kuehne, Leonid Karlinsky, Venkatesh Saligrama, Kate Saenko, Aude Oliva, and Rogerio Feris. **How Transferable are Video Representations Based on Synthetic Data?**. Neural Information Processing Systems Datasets and Benchmarks Track 2022. ([MIT News](#))
- Alexander H Liu, **SouYoung Jin**, Cheng-I Jeff Lai, Andrew Rouditchenko, Aude Oliva, and James Glass. **Cross-Modal Discrete Representation Learning**. Annual Meeting of the Association for Computational Linguistics (ACL) 2022. ([MIT News](#))
- Mathew Monfort*, **SouYoung Jin***, Alexander H. Liu, David Harwath, Rogerio Feris, James Glass, Aude Oliva. **Spoken Moments: Learning Joint Audio-Visual Representations from Video Descriptions**. Computer Vision and Pattern Recognition (CVPR), Jun. 2021.
- Ashish Singh*, Hang Su*, **SouYoung Jin**, Huaizu Jiang, Chetan Manjesh, Geng Luo, Ziwei He, Li Hong, Erik G. Learned-Miller, and Rosemary Cowell. **Half&Half: New Tasks and Benchmarks for Studying Visual Common Sense**. CVPR 2019 Workshop on Vision Meets Cognition, Jun. 2019.
- Aruni RoyChowdhury, Prithvijit Chakrabarty, Ashish Singh, **SouYoung Jin**, Huaizu Jiang, Liangliang Cao and Erik Learned-Miller. **Automatic adaptation of object detectors to new domains using self-training**. Computer Vision and Pattern Recognition (CVPR), Jun. 2019.
- **SouYoung Jin***, Aruni RoyChowdhury*, Huaizu Jiang, Ashish Singh, Aditya Prasad, Deep Chakraborty, and Erik Learned-Miller. **Unsupervised Hard Example Mining from Videos for Improved Object Detection**. European Conference on Computer Vision (ECCV), 16 pages, Sep. 2018.
- **SouYoung Jin**, Hang Su, Chris Stauffer, and Erik Learned-Miller. **End-to-end face detection and cast grouping in movies using Erdos-Renyi clustering**. International Conference on Computer Vision (ICCV), 10 pages, Oct. 2017. ([Spotlight](#))
- **Sou-Young Jin**, Ho-Jin Choi, and Yu-Wing Tai. **A Randomized Algorithm for Natural Object Colorization**. Computer Graphics Forum (Special Issue on Eurographics), vol. 33, no. 2, 2014.
- **Sou-Young Jin**, Suwon Lee, Nur Aziza Azis, and Ho-Jin Choi. **Jigsaw Puzzle Image Retrieval via Pairwise Compatibility Measurement**. International Conference on Big Data and Smart Computing (BigComp), pages 123 – 127, Jan. 2014.
- **Sou-Young Jin** and Ho-Jin Choi. **Essential Body-Joint and Atomic Action Detection for Human Activity Recognition Using Longest Common Subsequence Algorithm**. Lecture Notes in Computer Science, vol. 7729, pages 148-159, 2013.
- **Sou-Young Jin**, Ho-Jin Choi, and Youssef Iraqi. **Depth Consistency Evaluation for Error-Pose Detection**. International Conference on Machine Vision (ICMV), Nov. 2013.
- **Sou-Young Jin**, Ho-Jin Choi. **Clustering Space-Time Interest Points for Action Representation**. International Conference on Machine Vision (ICMV), Nov. 2013.
- **Sou-Young Jin**, Young-Seob Jong, Chankyu Park, Kyo-Joong Oh, and Ho-Jin Choi. **An Intelligent Multi-Sensor Surveillance System for Elderly Care**. Smart Computing Review, vol. 2, no. 4, August 2012. ([Outstanding Paper in SCTA¹](#))

¹International Conference on Smart Convergence Technologies and Applications

- **Sou-Young Jin**, Jae-Kyung Won, Hojin Lee, and Ho-Jin Choi. **Construction of Automated Screening System to Predict Breast Cancer Diagnosis and Prognosis**. Basic and Applied Pathology, vol. 5, issue 1, pages 15-18, Mar. 2012.

Teaching

Instructor

- COSC 74/274 (Machine Learning & Statistical Data Analysis), Dartmouth College, Winter 2023, Winter 2024
- COSC 89.30/189 (Topics in Video Understanding), Dartmouth College, Spring 2023, Spring 2024

Teaching Assistant

- COMPSCI 682 (Neural Networks), UMass Amherst, Fall 2019
- COMPSCI 688 (Graphical Models), UMass Amherst, Spring 2019
- CS476/BiS481 (Collective Intelligence in Biomedical Application), KAIST, Fall 2012, Fall 2013
- CS457 (Web-based Software Development), KAIST, Spring 2013
- ED100 (Freshman Design Course), KAIST, Spring 2011, Fall 2011

Services

Area Chair

- IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) 2024, 2025

Reviewing

- IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024
- International Conference in Computer Vision (ICCV) 2019, 2021, 2023
- European Conference on Computer Vision (ECCV) 2020, 2022, 2024
- Conference on Neural Information Processing Systems (NeurIPS) 2020, 2021, 2022, 2023, 2024
- Conference on Neural Information Processing Systems (NeurIPS) Track on Datasets and Benchmarks 2022, 2023
- International Conference on Learning Representations (ICLR) 2022, 2023, 2024
- International Conference on Machine Learning (ICML) 2023, 2024
- International Joint Conference on Artificial Intelligence and the Pacific Rim International Conference on Artificial Intelligence (IJCAI-PRICAI) 2020
- IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI) 2017, 2018, 2020
- International Journal of Computer Vision (IJCV) 2022, 2023
- Pattern Recognition (PR) 2016
- Symposium on Optimization and Information Systems (COSI) 2013
- International Conference on Pattern Recognition (ICPR) 2012

Workshop Organizer

- NECV 2023 New England Computer Vision Workshop at Dartmouth
- ECCV 2020 Multimodal Video Analysis Workshop

Breakthrough Tech AI at MIT

- Challenge Advisor (Fall 2022)

Awards

Selected to participate in the CVPR 2020 Doctoral Consortium

*Virtual Conference
2020*

- Mentor: Prof. Lorenzo Torresani

Selected for the prestigious Rising Stars in EECS program

*University of Illinois at
Urbana-Champaign
2019*

Advising

PhD Students

- Wayner Barrios (Winter 2023 — Present)

MS/Undergraduate Students

- Dylan Thomas (UG. Fall 2023 — Present)
- Raif Olson (MS. Summer 2024 — Present)