SouYoung Jin

Assistant Professor

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Experience

Computer Science, Dartmouth College — *Hanover, NH, United States*
Assistant Professor — *Jan. 2023 - Present*

Computational Perception & Cognition Team, CSAIL, MIT — *Cambridge, MA, United States*
Postdoctoral Associate — *Jan. 2020 - Dec. 2022*
- Advisor: Prof. Aude Oliva
- Video understanding, multimodal learning

Computer Vision Lab, UMass Amherst — *Amherst, MA, United States*
Research Assistant — *Sep. 2014 - Dec. 2019*
- Advisor: Prof. Erik Learned-Miller
- Object detection, tracking, clustering in unlabeled videos

Visual Input Team, Microsoft, AI and Research — *Redmond, WA, United States*
Research Intern — *May 2018 - Aug. 2018*
- Mentor: Dr. Lei Zhang
- Learning to disentangle feature representations by interchanging attributes

Knowledge Engineering and Collective Intelligence Lab, KAIST — *Daejeon, South Korea*
Research Assistant — *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) — *Amherst, MA, United States*
PhD, College of Information and Computer Sciences (CICS) — *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) — *Daejeon, South Korea*
MS, Computer Science — *Sep. 2010 – Aug. 2012*
- Advisor: Prof. Ho-Jin Choi

Dongguk University — *Seoul, South Korea*
BS, Computer Science Engineering — *Mar. 2007 – Aug. 2010*
- The early graduation of excellent students (3.5 years, 1/83)

Publications

- Camilo Luciano Fosco and **SouYoung Jin** and 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 SCTA[1])
- **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
- COSC 89.30/189 (Topics in Video Understanding), Dartmouth College, Spring 2023

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

[1] International Conference on Smart Convergence Technologies and Applications

Area Chair

- IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) 2023

Reviewing

- IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2017, 2018, 2019, 2020, 2021, 2022, 2023
- International Conference in Computer Vision (ICCV) 2019, 2021, 2023
- European Conference on Computer Vision (ECCV) 2020, 2022
- Conference on Neural Information Processing Systems(NeurIPS) 2020, 2021, 2022, 2023
- Conference on Neural Information Processing Systems(NeurIPS) Track on Datasets and Benchmarks 2022, 2023
- International Conference on Learning Representations (ICLR) 2022, 2023
- International Conference on Machine Learning (ICML) 2023
- 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

- 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

Current Students

- Wayner Barrios (PhD Student at Dartmouth CS)
- Xingjian Diao (PhD Student at Dartmouth CS)
- Ming Cheng (MS Student at Dartmouth CS)
- Henry Scheible (Undergraduate Student at Dartmouth CS)