

Yumin Suh

[Google Scholar Profile](#)

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I am a senior researcher at NEC Laboratories America. My current research focuses on large vision-language model and visual representation that interacts with language.

Work Experience

NEC Laboratories America | [Media Analytics department](#)

June 2024 – Present

Senior Researcher

San Jose, CA

- Developing Large Vision-Language Models for images and videos

NEC Laboratories America | [Media Analytics department](#)

December 2019 – May 2024

Researcher

San Jose, CA

- Developed a domain-specific Large Vision-Language Model for human analysis
- Developed a unified model that performs multiple tasks for rich human analysis

Microsoft Research Asia

September 2016 – June 2017

Research Intern

Mentors: [Jingdong Wang](#), [Tao Mei](#)

- Proposed a visual representation for person re-identification ([Publication](#) cited 600+ times)

Inria | *WILLOW team*

December 2014 – May 2015

Research Intern

Mentors: [Minsu Cho](#), [Jean Ponce](#)

Education

Seoul National University

Apr. 2019 – Nov. 2019

Postdoc

Advisors: [Bohyung Han](#), [Kyoung Mu Lee](#)

Seoul National University

Mar. 2014 – Feb 2019

Ph.D., Electrical and Computer Engineering

Advisor: [Kyoung Mu Lee](#)

Seoul National University

Mar. 2011 – Feb. 2013

M.S., Electrical Engineering and Computer Science

Advisor: [Kyoung Mu Lee](#)

Seoul National University

Mar. 2007 – Feb. 2011

B.S., Electrical Engineering

Workshop Organization

2nd OmniLabel workshop at ECCV 2024 [[Workshop](#)][[Benchmark](#)][[Challenge](#)]

Organizers: Vijay Kumar B G, [Yumin Suh](#), Samuel Schuster, Shiyu Zhao, Long Zhao, Dimitris N. Metaxas

1st OmniLabel workshop at CVPR 2023 [[Workshop](#)][[Benchmark](#)][[Challenge](#)]

Organizers: Samuel Schuster, Vijay Kumar B G, [Yumin Suh](#), Golnaz Ghiasi, Long Zhao, Qi Yu, Dimitris N. Metaxas

- Workshop to promote research on **language-based vision perception** system beyond simple category names
- New [benchmark](#) for language-based object detection

Papers

Improving the Efficiency-Accuracy Tradeoff of DETR-Style Models in Practice

[Yumin Suh](#), Dongwan Kim, Abhishek Aich, Samuel Schuster, Jong-Chyi Su, Bohyung Han,

Manmohan Chandraker

[ECV Workshop at CVPR 2024](#)

Generating Enhanced Negatives for Training Language-Based Object Detectors

Shiyu Zhao, Long Zhao, Vijay Kumar BG, [Yumin Suh](#), Dimitris N. Metaxas, Manmohan Chandraker,

Samuel Schuster

CVPR 2024

Taming Self-Training for Open-Vocabulary Object Detection

Shiyu Zhao, Samuel Schuster, Long Zhao, Zhixing Zhang, Vijay Kumar BG, [Yumin Suh](#), Manmohan Chandraker,

Dimitris N. Metaxas

CVPR 2024

Efficient Controllable Multi-Task Architectures

Abhishek Aich, Samuel Schuster, Amit K. Roy-Chowdhury, Manmohan Chandraker, [Yumin Suh](#)

ICCV 2023

OmniLabel: A Challenging Benchmark for Language-Based Object Detection

Samuel Schuler, Vijay Kumar B G, [Yumin Suh](#), Konstantinos M. Dafnis*, Zhixing Zhang*, Shiyu Zhao*, Dimitris Metaxas (* equal technical contribution, alphabetic order)

ICCV 2023 (Oral)

- New *dataset and benchmark* for *language-based detection*. Hosted the Omnilabel workshop in CVPR 2023

Confidence and Dispersity Speak: Characterizing Prediction Matrix for Unsupervised Accuracy Estimation

Weijian Deng, [Yumin Suh](#), Stephen Gould, Liang Zheng

ICML 2023

Split to Learn: Gradient Split for Multi-Task Human Image Analysis

Weijian Deng, [Yumin Suh](#), Xiang Yu, Masoud Faraki, Liang Zheng, Manmohan Chandraker

WACV 2023

Learning Semantic Segmentation from Multiple Datasets with Label Shifts

Dongwan Kim, Yi-Hsuan Tsai, [Yumin Suh](#), Masoud Faraki, Sparsh Garg, Manmohan Chandraker, Bohyung Han

ECCV 2022

Controllable Dynamic Multi-Task Architectures

Dripta S. Raychaudhuri, [Yumin Suh](#), Samuel Schuler, Xiang Yu, Masoud Faraki, Amit K. Roy-Chowdhury, Manmohan Chandraker

CVPR 2022 (Oral)

On Generalizing Beyond Domains in Cross-Domain Continual Learning

Christian Simon, Masoud Faraki, Yi-Hsuan Tsai, Xiang Yu, Samuel Schuler, [Yumin Suh](#), Mehrtash Harandi, Manmohan Chandraker

CVPR 2022

Cross-Domain Similarity Learning for Face Recognition in Unseen Domain

Masoud Faraki, Xiang Yu, Yi-Hsuan Tsai, [Yumin Suh](#), Manmohan Chandraker

CVPR 2021

Learning to Optimize Domain Specific Normalization for Domain Generalization

Seonguk Seo, [Yumin Suh](#), Dongwan Kim, Geeho Kim, Jongwoo Han, Bohyung Han

ECCV 2020

Stochastic Class-based Hard Example Mining for Deep Metric Learning

[Yumin Suh](#), Bohyung Han, Wonsik Kim, Kyoung Mu Lee

CVPR 2019

Part-Aligned Bilinear Representations for Person Re-identification

[Yumin Suh](#), Jingdong Wang, Siyu Tang, Tao Mei, Kyoung Mu Lee

ECCV 2018

Appearance Dependent Inter-Part Relationship for Human Pose Estimation

[Yumin Suh](#) and Kyoung Mu Lee

APSIPA 2016

Discrete Tabu Search for Graph Matching

Kamil Adamczewski, [Yumin Suh](#), Kyoung Mu Lee

ICCV 2015

Subgraph Matching Using Compactness Prior For Robust Feature Correspondence

[Yumin Suh](#), Kamil Adamczewski, Kyoung Mu Lee

CVPR 2015

Graph Matching via Sequential Monte Carlo

[Yumin Suh](#), Minsu Cho, Kyoung Mu Lee

ECCV 2012

Honors and Awards

Business Contribution Award, NEC Laboratories America

2024

- NEC develops the technology to automatically generate explanatory text from video using video recognition AI x LLM, (December 2023)

Business Contribution Award, NEC Laboratories America

2023

- Aiming to realize human digital twins: Image analysis technology that efficiently senses the real world, (August 2023)
- NEC develops high-speed, high-precision technology to search for specific persons based on ambiguous appearance attribute information by analyzing camera images (May 2023)

Outstanding Reviewer, CVPR 2023

2023

Outstanding Reviewer, ICML 2020

2023

3rd Place Award, VisDA-2019

2019

- *Visual Domain Adaptation Challenge, TASK-CV Workshop in ICCV 2019*
with Dongwan Kim, Geeho Kim, Seonguk Seo, Bohyung Han, Taeho Lee, Jongwoo Han, Hyejeong Jeon

Doctoral Colloquium, KCCV 2019

2019

Doctoral Colloquium , CVPR 2019	2019
3rd Place Award , SFMI Machine Learning Challenge 2017	2017
<ul style="list-style-type: none"> <i>Challenge on the road sign letter recognition from road view images</i>, Samsung Fire & Marine Insurance, Korea with Jihong Kang and Sungyong Baik 	
Graduated with honors (Summa cum laude)	2011

Invited Talks

Elastic AI: Adaptive Solution for Multi-Task AI Challenges

- Korea University Feb 2024

Elastic AI for multiple tasks

- Company-wide talk May 2022
- [Lomin Inc.](#) February 2022
- Guest lecture in “Moonshot project”, Korea University June 2022

Multi-task learning and domain generalization

- Guest lecture in Australian National University October 2021

Learning local matching for person re-identification

- Young Research Highlight, Summer Annual Conference of IEIE June 2021

Academic Services

Area Chair

- CVPR (2025)
- CVPR (2024)
- ACCV (2022)

Senior Program Committee

- AAAI (2022)
- IJCAI (2021)

Program Committee

- AAAI (2025)
- ECCV, ICLR, ICML (2024)
- CVPR, ICCV, ICLR, ICML (2023)
- CVPR, ECCV, ICLR, ICML, IJCAI, NeurIPS (2022)
- AAAI, CVPR, ICCV, ICLR, ICML, NeurIPS, WACV (2021)
- AAAI, ACCV, CVPR, ECCV, ICPR, ICML (2020)
- CVPR, ICCV (2019)
- MM (2017)

Journal Reviewer

- TPAMI, TIP, TMM, TCSVT, CVIU, MMSJ, AOAS

Student volunteer

- ACCV 2012, MM 2018

Mentoring

Dohwan Ko (Korea University)	2024
Youngmin Oh (Yonsei University)	2023
Dongwan Kim (Seoul National University)	2023
Abhishek Aich (University of California, Riverside)	2022
Dripta Raychaudhuri (University of California, Riverside)	2021
Weijian Deng (Australian National University)	2020