# Juhong Min


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| Position | **Senior Researcher**<br>**Samsung AI Center - Mountain View**<br>**Samsung Research America** |
| Contact Information | Samsung Research America<br>665 Clyde Ave<br>Mountain View, CA 94043<br><br>e-mail: juhongm999@gmail.com<br>Portfolio: `https://juhongm999.github.io` |
| U.S. Work Authorization | U.S. permanent resident<br>through the EB-1 category based on research achievements |
| Citizenship | The Republic of Korea |
| Research Interests | Computer Vision, Efficient Multimodal Understanding, Agentic Memory and Reasoning, Robotic Manipulation and Navigation, World Modelling. |


## Work Experience

**Samsung Research America (SRA)**, Mountain View, United States
*Senior Researcher* **Feb 2025 – now**
- Research focus on multimodal understanding for edge devices.

**Pohang University of Science and Technology (POSTECH)**, Pohang, Korea
*Postdoctoral Researcher* **Mar 2024 – Jan 2025**
- Research focus on robotics. Worked with Prof. Minsu Cho

**Google Research**, Grenoble, France
*Student Researcher* **July 2023 – Mar 2024**
- Research focus on modular reasoning for video question answering.
- Worked with Shyamal Buch, Arsha Nagrani, and Cordelia Schmid.

**Microsoft Research Asia**, Remote
*Research Intern* **Nov 2021 – Apr 2022**
- Research focus on image representation learning.
- Worked with Yucheng Zhao and Chong Luo.

**Electronic Arts Korea Inc.**, Seoul, Korea
*Associate Software Engineer* **Jan 2018 – Mar 2018**
- Developed and maintained FIFA Online 3 client/front-end UI modules.

## Education

**Pohang University of Science and Technology (POSTECH)**, Pohang, Korea

*Ph.D., Department of Computer Science and Engineering* **Sep 2018 – Feb 2024**
- Advisor: Prof. Minsu Cho
- Dissertation: *Learning Visual Correspondence: Exploring Multi-Level Neural Features and High-Dimensional Transforms*
- Cumulative GPA: 4.12/4.3

**The Pennsylvania State University**, State College, PA

*B.S., Department of Computer Science and Engineering* **Sep 2011 – Dec 2014**
- Major: Computer Science
- Cumulative GPA: 3.29/4.0

## Academic Serivces

International Conference on Computer Vision (ICCV) 2019
*Webmaster*

Computer Vision and Pattern Recognition (CVPR)
International Conference on Machine Learning (ICML)
Neural Information Processing Systems (NeurIPS)
European Conference on Computer Vision (ECCV)
International Journal of Computer Vision (IJCV)
International Conference on Computer Vision (ICCV)
Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
Winter Conference on Computer Vision (WACV)
The Machine Vision Applications (MVA)
AAAI Conference on Artificial Intelligence (AAAI)
*Regular reviewer*

## Honors & Awards

IPIU Best Paper Award (2024)
*3D Geometric Shape Assembly via Efficient Point Cloud Matching*

CSE outstanding research Award (2024)
*in CSE at POSTECH*

Best Ph.D Dissertation Award (2024)
*in CSE, GSAI, EE, CITE at POSTECH*

BK21 outstanding paper awards
*For NeurIPS'22 and TPAMI'22 papers*

Google PhD Fellowship Award 2022
*Machine Perception, Speech Technology, and Computer Vision*

Outstanding reviewer at CVPR 2022
*Awarded to top 5% reviewers*

POSTECHIAN Fellowship Award 2022
*For outstanding research achievements*

BK21 outstanding paper awards
*For ICCV'19, ECCV'20, and CVPR'21 papers*

Qualcomm Innovation Fellowship Korea 2021
*Convolutional Hough Matching Networks*

Outstanding reviewer at ICCV 2021
*Awarded to top 5% reviewers*

The 1st POSTECH research performance contest 2021
*Fourth prize*

Naver Ph.D. Fellowship 2020

Best term project & presentation award 2019
*For outstanding in-class (3D Vision) project achievements*

## Military Obligation

**59 Ammunition Supply Point & 102 Replacement Battalion**, Chuncheon, Korea
*Rifleman* **Jun 2015 – Mar 2017**

- Carried out obligatory duty of national defense.

## Publications

Full list is available at my website[1] and Google Scholar[2]. * denotes equal contribution.

Nahyuk Lee*, **Juhong Min***, Junhong Lee, Chunghyun Park, Minsu Cho, "Combinative Matching for Geometric Shape Assembly," in *Proceedings of the IEEE International Conference on Computer Vision* **(ICCV)**, 2025. **Highlight presentation**.

Nahyuk Lee*, **Juhong Min***, Junha Lee, Seungwook Kim, Kanghee Lee, Jaesik Park, Minsu Cho, "3D Geometric Shape Assembly via Efficient Point Cloud Matching," in *The 41st International Conference on Machine Learning* **(ICML)**, 2024.

**Juhong Min**, Shyamal Buch, Arsha Nagrani, Minsu Cho, Cordelia Schmid, "MoReVQA: Exploring Modular Reasoning Models for Video Question Answering," in *Proceedings of the IEEE Conf. on Computer Vision and Pattern Recognition* **(CVPR)**, 2024.

Seungwook Kim, **Juhong Min**, Minsu Cho, "Efficient Semantic Matching with Hypercolumn Correlation," in *Proceedings of the IEEE Winter Conference on Computer Vision* **(WACV)**, 2024. **Oral presentation, best paper finalist**.

**Juhong Min**, Seungwook Kim, Minsu Cho, "Convolutional Hough Matching Networks for Robust and Efficient Visual Correspondence," in *IEEE Transactions on Pattern Analysis and Machine Intelligence* **(TPAMI)**, 2023.

**Juhong Min**, Yucheng Zhao, Chong Luo, Minsu Cho, "Peripheral Vision Transformer," in *Proceedings of the Annual Conference on Neural Information Processing Systems* **(NeurIPS)**, 2022.

Seungwook Kim, **Juhong Min**, Minsu Cho, "TransforMatcher: Match-to-Match Attention for Semantic Correspondence," in *Proceedings of the IEEE Conf. on Computer Vision and Pattern Recognition* **(CVPR)**, 2022.

Dahyun Kang, Heeseung Kwon, **Juhong Min**, Minsu Cho, "Relational Embedding for Few-Shot Classification," in *Proceedings of the IEEE International Conference on Computer Vision* **(ICCV)**, 2021.

**Juhong Min**, Dahyun Kang, Minsu Cho, "Hypercorrelation Squeeze for Few-Shot Segmentation," in *Proceedings of the IEEE International Conference on Computer Vision* **(ICCV)**, 2021.

**Juhong Min**, Minsu Cho, "Convolutional Hough Matching Networks," in *Proceedings of the IEEE Conf. on Computer Vision and Pattern Recognition* **(CVPR)**, 2021. **Oral presentation**.

Jongmin Lee, Yoonwoo Jeong, Seungwook Kim, **Juhong Min**, Minsu Cho, "Learning to Distill Convolutional Features into Compact Local Descriptors," in *Proceedings of the IEEE Winter Conference on Computer Vision* **(WACV)**, 2021.

**Juhong Min**, Jongmin Lee, Jean Ponce, Minsu Cho, "Learning to Compose Hypercolumns for Semantic Visual Correspondence," in *Proceedings of the IEEE European Conference on Computer Vision* **(ECCV)**, 2020.

**Juhong Min**, Jongmin Lee, Jean Ponce, Minsu Cho, "SPair-71k: A Large-scale Benchmark for Semantic Correspondence," in arXiv preprint, 2019.

[1] See my profile at: https://juhongm999.github.io/

[2] Full publication list is at: https://scholar.google.com/citations?user=261oVi4AAAAJ&hl=en.

**Juhong Min**, Jongmin Lee, Jean Ponce, Minsu Cho, "Hyperpixel Flow: Semantic Correspondence with Multi-layer Neural Features," in *Proceedings of the IEEE International Conference on Computer Vision* **(ICCV)**, 2019.

LANGUAGE SKILLS Korean(native), English(fluent)

REFEREES *Available on request.*