Gen Li

Final-year PhD candidate at University of Edinburgh

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EDUCATION

University of Edinburgh *2021.09 - 2025.07 (Expected)*
Ph.D. Robotics and Autonomous Systems - Edinburgh, UK

Sungkyunkwan University *2018.09 - 2020.08*
M.S. Electrical and Computer Engineering - Suwon, South Korea

Xidian University *2014.08 - 2018.06*
B.S. Electronic and Information Engineering - Xi'an, China

RESEARCH FIELDS

The central focus of my research is to empower machines to *perceive* and *interact* with their environments in a *data-efficient* manner. This includes exploring a range of cutting-edge topics:

- **Embodied AI -** Affordance Learning, Robotic Manipulation
- **Computer Vision -** Scene Understanding, Vision-Language Models
- **Efficient Learning -** Learning under Weak Supervision & Limited Data
- **Human-Object Interaction** - Egocentric Vision, Interaction Understanding / Generation

RESEARCH EXPERIENCE

Affordance Learning & Human-Object Interaction Understanding *2021.09 - Present*
PhD's Research, Supervisor: Prof. Laura Sevilla-Lara

Prototypical Learning for Few-Shot Semantic Segmentation *2020.10 - 2021.08*
Visiting Researcher at the UoE, Supervisor: Prof. Laura Sevilla-Lara

Lightweight Real-time Semantic Segmentation Network *2019.06 - 2020.07*
Master's Research, Supervisor: Prof. Joongkyu Kim

Deep Learning based Semantic Segmentation *2017.11 - 2018.06*
Undergraduate Thesis, Supervisor: Prof. Cheolkon Jung

SELECTED PUBLICATIONS (total citations: 990+)

- One-Shot Open Affordance Learning with Foundation Models [project]
  Gen Li, Deqing Sun, Laura Sevilla-Lara, Varun Jampani
  CVPR 2024
- LOCATE: Localize and Transfer Object Parts for Weakly Supervised Affordance Grounding
  Gen Li, Varun Jampani, Deqing Sun, Laura Sevilla-Lara [project]
  CVPR 2023
- Adaptive Prototype Learning and Allocation for Few-Shot Segmentation [project]
  Gen Li, Varun Jampani, Laura Sevilla-Lara, Deqing Sun, Jonghyun Kim, Joongkyu Kim
  CVPR 2021 ***[430+ citations]***
- DABNet: Depth-wise Asymmetric Bottleneck for Real-time Semantic Segmentation [paper] [code]
  Gen Li, Joongkyu Kim
  BMVC 2019 ***[320+ citations]***
- Depth-wise Asymmetric Bottleneck with Point-wise Attention Decoder for Real-time Semantic Segmentation in Urban Scenes [paper]
  Gen Li, Shenlu Jiang, Inyong Yun, Jonghyun Kim, Joongkyu Kim
  IEEE Access (SCI, IF: 4.098)
- Weakly Supervised Temporal Attention 3D Network for Human Action Recognition [paper]
  Jonghyun Kim, **Gen Li**, Inyong Yun, Cheolkon Jung, Joongkyu Kim
  Pattern Recognition (SCI, IF: 7.196)

- Edge and Identity Preserving Network for Face Super-Resolution [paper] [code]
  Jonghyun Kim, **Gen Li**, Inyong Yun, Cheolkon Jung, Joongkyu Kim
  Neurocomputing (SCI, IF: 4.438)
- Referenceless User Controllable Semantic Image Synthesis [paper]
  Jonghyun Kim, **Gen Li**, Joongkyu Kim
  IJCNN 2023
- SuperStyleNet: Deep Image Synthesis with Superpixel Based Style Encoder [paper] [code]
  Jonghyun Kim, **Gen Li**, Cheolkon Jung, Joongkyu Kim
  BMVC 2021
- Perspective-Aware Density Regression for Crowd Counting [paper]
  Yutong Wang*, **Gen Li***, Qi Zhang, Joongkyu Kim, Huifang Li
  ICIP 2021
- Progressive Face Super-Resolution with Non-Parametric Facial Prior Enhancement [paper]
  Jonghyun Kim, **Gen Li**, Cheolkon Jung, Joongkyu Kim
  ICIP 2021

Preprint

- Learning Precise Affordances from Egocentric Videos for Robotic Manipulation [project]
  Gen Li, Nikolaos Tsagkas, …, Sethu Vijayakumar, Kun Shao, Laura Sevilla-Lara
- Robotic Embodied Intelligence: Integrating Language Models, Curated Knowledge, and Multimodal Feedback for Complex Task Success [paper]
  Ruaridh Mon-Williams, **Gen Li**, Ran Long, Wenqian Du, Chris Lucas
- Principles of Visual Tokens for Efficient Video Understanding [paper]
  Xinyue Hao, **Gen Li**, Shreyank N Gowda, …, Anurag Arnab, Laura Sevilla-Lara
- SpecSAR-Former: A Lightweight Transformer-based Network for Global LULC Mapping Using Integrated Sentinel-1 and Sentinel-2 [paper]
  Hao Yu*, **Gen Li***, Haoyu Liu, Songyan Zhu, Wenquan Dong, Changjian Li

WORK EXPERIENCE

Huawei, Noah's Ark Lab, London *2023.07 - 2024.02*
Research Intern | Affordance-Oriented Robotic Manipulation

ACADEMIC SERVICE

Reviewer

- Conference - CVPR2024/2025, AAAI2024, ECCV 2024
- Journal - IEEE Transactions on Image Processing, Neurocomputing

Teaching

- [2023 - 2024] Introductory Applied Machine Learning - Demonstrator & Tutor
- [2022 - 2024] Applied Machine Learning - Teaching Assistant
- [2018 - 2020] Digital Signal Processing - Teaching Assistant

AWARDS AND GRANTS

- Ph.D. - EPSRC funded CDT-RAS Scholarship, 100% tuition waiver and an annual stipend
- M.S. - STEM Scholarship, 100% tuition waiver, Samsung Funding
- State Scholarship for Study Abroad, China Scholarship Council of P.R. China