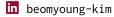
# Beom Young Kim (김범영).

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https://beomyoung-kim.github.io/





## **Employment History**

**NAVER CLOVA.** AI Research Engineer at Naver Clova Image-Vision team. Jan 2021 - Current

Jul 2020 - Dec 2020 **NAVER CLOVA.** Internship at Naver Clova Visual AI FACE team.

Jul 2019 – Jul 2019 Hyundai Mobis. Internship at Hyundai Mobis Autonomous Driving Advanced Development team.

**NAVER CLOVA.** Internship at Naver Clova Vision OCR team. Jul 2018 – Dec 2018

Feb 2014 – Jan 2016 Military Service.

### **Education**

Sep 2022 - Current **Ph.D Student, KAIST.** Graduate School of AI (part-time). Under the supervision of Prof.Sung Ju Hwang.

Mar 2019 – Feb 2021 M.S., KAIST. Electrical Engineering. Division of Future Vehicle. Under the supervision of Prof.Junmo Kim.

Mar 2013 - Feb 2019 **B.S.**, **Inha University**. Information and Communication Engineering.

#### Research Interest

### **Image Segmentation**

- Weakly-Supervised Semantic Segmentation using Image-level Labels [7].
- Weakly-Supervised Instance Segmentation using Image-level or Point Labels [4].
- Semi-Supervised Instance Segmentation [1].
- Class Incremental (Continual Learning) Semantic Segmentation [5].
- Real-time Semantic Segmentation on Edge Devices; 3ms latency on Mobile CPU in Galaxy or iPhone.
- Real-time Human Matting (to be published).
- Promptable Image Segmentation.

#### **Object Detection**

- One-stage, Anchor-Free, Real-time Object Detection.
- Object Detection with Transformer, Vision Transformer.
- Oriented Object Detection (detecting rotated bounding boxes) [3].
- Open Vocabulary Object Detection.
- Lightweight Object Detection Network [2], [6].

## **Research Publications**

- **B. Kim**, J. Jeong, D. Han, and S. J. Hwang, "The devil is in the points: Weakly semi-supervised instance segmentation via point-guided mask representation," in *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*, 2023, pp. 11 360–11 370.
- J. Jeong, **B. Kim**, J. Yu, and Y. Yoo, "Rediscovery of the effectiveness of standard convolution for lightweight face detection," *arXiv* preprint arXiv:2204.01200, 2022.
- **B. Kim**, J. Lee, S. Lee, D. Kim, and J. Kim, "Tricubenet: 2d kernel-based object representation for weakly-occluded oriented object detection," in *Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision*, 2022, pp. 167–176.
- **B. Kim**, Y. Yoo, C. E. Rhee, and J. Kim, "Beyond semantic to instance segmentation: Weakly-supervised instance segmentation via semantic knowledge transfer and self-refinement," in *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*, 2022, pp. 4278–4287.
- S. Cha\*, **B. Kim**\*, Y. Yoo, and T. Moon, "Ssul: Semantic segmentation with unknown label for exemplar-based class-incremental learning," *Advances in Neural Information Processing Systems*, vol. 34, pp. 10 919–10 930, 2021.
- D. Han, Y. Yoo, **B. Kim**, and B. Heo, "Learning features with parameter-free layers," in *International Conference on Learning Representations*, 2021.
- **B. Kim**, S. Han, and J. Kim, "Discriminative region suppression for weakly-supervised semantic segmentation," in *Proceedings of the AAAI Conference on Artificial Intelligence*, vol. 35, 2021, pp. 1754–1761.
- **B. Kim**, S. Han, E. Yi, and J. Kim, "3d point cloud upsampling and colorization using gan," in *International Conference on Multi-disciplinary Trends in Artificial Intelligence*, Springer, 2021, pp. 1–13.
- 9 H. Ryu, **B. Kim**, H. Yoo, and J. Lee, "Fully automated valet parking system based on infrastructure sensing," in *RiTA 2020*, Springer, 2021, pp. 22–31.

## **Academic Activity**

#### **Conference Reviewer**

2023 CVPR 2023, WACV 2023, ICCV 2023, NeurIPS 2023

2024 AAAI 2024, ICLR 2024

### **Skills**

Coding Python (Pytorch, Tensorflow), C/C++, Java, РНР, ŁТЕХ, ...

## Miscellaneous Experience

#### **Awards and Achievements**

2018 **및 2018 슈퍼챌린지 해커톤 대상**. 중소기업청, 인하대학교 주관/주최. 딥러닝 기반 야생 동물 탐 지 시스템.

## Miscellaneous Experience (continued)

- 2017  **과학기술정보통신부 장관상**, 2017 한이음 공모전 금상 (장관상). 딥러닝 기반 자율 주행 버스 운행 시스템.
  - 2017 IP 메이커톤 최우수상. 인하대학교 주관/주최
  - 📕 2017 인하메이커톤 우수상. 인하대학교 주관/주최

### **Invited Talk**

- 2022 **진학사 캐치 커리어콘**. AI 리서치 엔지니어 신입사원 취업 A to Z, 김범영 멘토 (네이버 클로바 AI 리서치 엔지니어).
  - Inha University. Weakly-Supervised Instance Segmentation [4], invited by Prof. Rhee Chae Eun.
- NeurIPS 2021 Social: ML in Republic of Korea. SSUL: Semantic Segmentation with Unknown Label for Exemplar-based Class-Incremental Learning [5].