Beom Young Kim (김범영).

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🌐 https://beomyoung-kim.github.io/

Employment History

Jan 2021 – Current	**NAVER CLOVA.** AI Research Engineer at Naver Clova Image-Vision team.
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.
Jul 2018 – Dec 2018	**NAVER CLOVA.** Internship at Naver Clova Vision OCR team.
Feb 2014 – Jan 2016	Military Service.

Education

Sep 2022 – Current	**Ph.D Candidate, 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

- Semantic Segmentation, Instance Segmentation, Panoptic Segmentation.
- Weakly-Supervised Semantic Segmentation using Image-level Labels [6].
- Weakly-Supervised Instance Segmentation using Image-level or Point Labels [3].
- Semi-Supervised Instance Segmentation (to be published).
- Class Incremental (Continual Learning) Semantic Segmentation [4].
- Real-time Semantic Segmentation on Edge Devices; 3ms latency on Mobile CPU in Galaxy or iPhone.
- Real-time Human Matting (to be published).

Object Detection

- One-stage, Anchor-Free, Real-time Object Detection.
- Object Detection with Transformer, Vision Transformer.
- Oriented Object Detection (detecting rotated bounding boxes) [2].
- Open Vocabulary Object Detection.
- Lightweight Object Detection Network [1], [5].

Research Publications

1. J. Jeong, **B. Kim**, J. Yu, and Y. Yoo, "Rediscovery of the effectiveness of standard convolution for lightweight face detection," *arXiv preprint arXiv:2204.01209*, 2022.

2. **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.

3. **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.

4. 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.

5. D. Han, Y. Yoo, **B. Kim**, and B. Heo, "Learning features with parameter-free layers," in *International Conference on Learning Representations*, 2021.

6. **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.

7. **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.

8. 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

- CVPR 2023, WACV2023

Skills

Coding
- Python (Pytorch, Tensorflow), C/C++, Java, PHP, LaTeX, …

Miscellaneous Experience

Awards and Achievements

2018
- **2018 슈퍼챌린지 해커톤 대상**. 중소기업청, 인하대학교 주관/주최. 딥러닝 기반 야생 동물 탐지 시스템.

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

Miscellaneous Experience (continued)

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 [3], invited by Prof. Rhee Chae Eun.

2021   ▌ **NeurIPS 2021 Social: ML in Republic of Korea**. SSUL: Semantic Segmentation with Unknown Label for Exemplar-based Class-Incremental Learning [4].

References

Available on Request