Taehun Kim

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Personal Profile

I'm a graduate student in Computer Science and Engineering, POSTECH. My research topic is Computer Vision, Semantic Segmentation, Action Recognition, Salient Object Detection, Medical Image Segmentation, Image to Image Translation.

Education

SungKyunKwan University (SKKU) *Seoul, Republic of Korea*

BS in Computer Education *Mar 2014 - Feb 2018*

- GPA: 3.71 / 4.5
- 2nd grade teacher's license (Computer Education)
- **Courses:** Object Oriented Programming, Visual Programming, Computer Network, Data Structure, Computer Graphics, Software Engineering, Operating System, Artificial Intelligence, Algorithms, Automata Theory

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

Ph.D in Computer Science and Engineering *Mar 2018 - Current*

- GPA: 3.97 / 4.3
- Under supervision of Daijin Kim

Experience

Autonomous Driving Challenge *Hwaseong / Daegu, Korea*

Hyundai / Ministry of Trade, Industry and Energy *Sept 2018 - Oct 2022*

- Developed a LIDAR based detection algorithm, multiple LIDAR synchronization / alignment program, high resolution map based localization program, object detection, lane detection, free-space detection algorithms for autonomous vehicle.
- Developed a High Definition Map based localization, map parsing program to provide current location-based information.

Container Ship Segmentation & Direction Estimation *Gumi, Korea*

Samsung Heavy Industry *Apr 2018 - Sept 2019*

- Developed a segmentation network to detect large ships from the top-view fish-eye camera installed on top of the container ship. Based on the results from the segmentation network, I developed a post-processing program to estimate the direction of detected ships.

Cold-Rolled Steel Surface Defect Segmentation *Pohang, Korea*

POSCO *Dec 2018 - Dec 2019*

- Developed a segmentation network to detect various defects which can be found in steel surfaces especially for the cold-rolled steels.

Personal Protection Equipment (PPE) Detection and Monitoring System *Pohang, Korea*

Research Institute of Industrial Science & Technology (RIST) *Feb 2019 - Dec 2021*

- developed PPE detection and monitoring system for the construction cites from the remove surveillance camera system. Based on the detection results, I provide alerts for various hazardous events.

Publications

Spatio-temporal slowfast self-attention network for action recognition

Myeongjun Kim, Taehun Kim, Daijin Kim

2020 IEEE International Conference on Image Processing (ICIP 2020) [Paper]

SpaceMeshLab: Spatial Context Memoization And Meshgrid Atrous Convolution Consensus For Semantic Segmentation

Taehun Kim, Jinseong Kim, Daijin Kim

2021 IEEE International Conference on Image Processing (ICIP 2021) [Paper]

UACANet: Uncertainty Augmented Context Attention for Polyp Segmentation

Taehun Kim, Hyemin Lee, Daijin Kim

29th ACM International Conference on Multimedia (ACMMM 2021) [Paper] [Github]

Color Separated Restoration for Lightweight Single Image Super-Resolution

Jinseong Kim, Taehun Kim, Daijin Kim

Asia Digital Image Processing Conference (ADIP 2021) [Paper]

A Style-aware Discriminator for Controllable Image Translation
Kunhee Kim, Sanghun Park, Eunyeong Jeon, Taehun Kim, Daijin Kim
IEEE / CVF Computer Vision and Pattern Recognition Conference (CVPR 2022) [Paper] [Github]

Revisiting Image Pyramid Structure for High Resolution Salient Object Detection
Taehun Kim, Kunhee Kim, Joonyeong Lee, Dongmin Cha, Jiho Lee, Daijin Kim
16th Asian Conference on Computer Vision (ACCV2022) [Paper] [Github]

SAC-GAN : Face Image Inpainting with Spatial-aware Attribute Controllable GAN
Dongmin Cha, Joonyeong Lee, Taehun Kim, Daijin Kim
16th Asian Conference on Computer Vision (ACCV2022) ***Oral*** [Paper] [Github]

Skills

Programming	Python (Pandas, PyTorch, NumPy, Scikit-learn. etc.), C/C++
Miscellaneous	Linux, Shell (Bash/Zsh), LaTeX(Overleaf/R Markdown), Docker, Tableau, Microsoft Office, Git.
Soft Skills	Time Management, Teamwork, Problem-solving, Documentation, Engaging Presentation.

Achievements

2022	**Ministry of Trade, Industry and Energy Autonomous Driving Challenge**, Daegu Metropolitan City Mayor's Award (3rd place)	*Daegu, Korea*

Languages

English	Professional proficiency
Korean	Native proficiency

References available upon request.