Youngchan Kim

ML Engineer @ Beeble AI

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I'm interested in integrating AI into visual content creation to streamline and optimize workflows for generating high fidelity visual outputs, aiming to provide non-technical users with effective method.

Education

Pohang University of Science and Technology (POSTECH) — Pohang, Korea
MSc in Graduate School of Artificial Intelligence — *Mar. 2022 – Feb. 2024*

› [Master Thesis] Neural Spectro-polarimetric Fields *(Advisor: Prof. Seung-Hwan Baek)*

Yonsei University — Seoul, Korea
BSc in Mathematics & Electrical and Electronic Engineering — *Mar. 2016 – Feb. 2022*

Work Experience

Beeble AI — Seoul, Korea
ML Engineer — *Apr. 2024 – Present*

› Research and develop 2D-to-3D algorithm for full 3D geometry and texture prediction from a single 2D image

Harex InfoTech — Seoul, Korea
Research Engineer — *Oct. 2021 – Dec. 2021*

› Develop a purely data-based user-centric Digital Me algorithm to manage the individual's state in real-time

EVAR — Seongnam, Korea
Software Engineer Intern — *Jan. 2021 – Feb. 2021*

› Develop a Bluetooth communication system to remotely control the mobile EV charger using smartphone

Publications

[1] **Spectral and Polarization Vision: Spectro-polarimetric Real-world Dataset** — CVPR 2024 *(highlight)*
*Yujin Jeon, Eunsue Choi, **Youngchan Kim**, Yunseong Moon, Khalid Omer, Felix Heide, Seung-Hwan Baek*

[2] **Neural Spectro-polarimetric Fields** — SIGGRAPH Asia 2023
***Youngchan Kim**, Wonjoon Jin, Sunghyun Cho, Seung-Hwan Baek*

[3] **AMPER(Aim-Measure-Predict-Evaluate-Recommend): The Paradigm of Digital Me** — ICEC 2022
*Kyoung Jun Lee, Baek Jeong, Yujeong Hwangbo, **Youngchan Kim**, Sungwon Bae, Taehoon Baek*

Teaching Experience

Lecturer, *Samsung Electronics DX(Digital Transformation) Training* — Apr. 2024

› Deliver lectures on *Python programming and Data Science* for newly hired experienced employees

Teaching Assistant, *CSED700G Computational Imaging* Spring 2023

- Supervise the student projects related to *Computational Imaging*

Teaching Assistant, *POSCO AI Expert Training* Oct. 2022 / Jul. 2023

- Conduct coding sessions for the *Basic of Deep Learning and Computer Vision*

Projects

Video Restoration using Multi-view Polarization Mar. 2022 – Feb. 2024

- Build an imaging system to capture the multi-view spectro-polarimetric dataset
- Design the neural network to restore images captured in extreme conditions using polarization

Multi-view Consistent 3D Semantic Segmentation Jun. 2022 – Dec. 2022

- Render the multi-view datasets for 3D semantic segmentation
- Optimize the camera matrix for coordinate conversion through projection and unprojection

Multi-view 3D Reconstruction with Gradient-based Loss Feb. 2021 – Aug. 2021

- Enhance the reconstruction quality of *DISN* algorithm by introducing occupancy difference at each point
- Capstone Design project (Spring 2021) *(Advisor: Prof. Yoonsik Choe)*

Silk Microneedle for Continuous Glucose Sensing Jul. 2020 – Dec. 2020

- Fabricate a biocompatible microneedle glucose sensor combined with GF-monomer
- Capstone Design project (Fall 2020) *(Advisor: Prof. Ki Jun Yu)*

Skills

Language Korean (Native), English (Conversational)

Programming Python, Pytorch, Tensorflow, C/C++, MATLAB, Mitsuba 2/3, Linux, Docker

Experiments with Hardware Machine Vision Camera (*LUCID Vision Labs TRI051S-MC*), Hyperspectral Camera (*Cubert ULTRIS X20*), Liquid Crystal Tunable Filter (*Thorlabs KURIOS-XL1/M*)