Youngchan Kim

ML Engineer @ Beeble

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I'm interested in integrating AI into digital content creation to enhance visual realism and streamline workflows with controllability for human creativity. My goal is to empower individuals, regardless of their artistic experience, to generate high-quality visuals for storytelling with complete creative control.

🎓 Education

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

> Graduate student at Computer Graphics Lab *(Advisor: Prof. Seung-Hwan Baek)*

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

💼 Work Experience

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

> Contribute to SwitchLight by optimizing the de-rendering algorithm for PBR materials and depth extraction
> Develop a realistic multi-human generation and synthetic dataset rendering pipeline with virtual light stage

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

> Develop a purely data-based user-centric Digital Me algorithm for real-time personalized recommendation

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

> 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
Yujin Jeon, Eunsue Choi*, **Youngchan Kim**, Yunseong Moon, Khalid Omer, Felix Heide, Seung-Hwan Baek*   *(highlight)*

[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

Multi-view Consistent 3D Semantic Segmentation   May. 2022 – Nov. 2022
> Render multi-view datasets and unproject the estimated semantic labels for multi-view consistent results
> Project funded by ETRI *(Advisor: Prof. Seung-Hwan Baek)*

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 TRIO51S-MC*), Hyperspectral Camera (*Cubert ULTRIS X20*), Liquid Crystal Tunable Filter (*Thorlabs KURIOS-XL1/M*)