

# Youngchan Kim

Ph.D. student @ MPI for Informatics

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## 🎓 Education

### Max Planck Institute for Informatics / Saarland University

Ph.D. in Computer Science

Apr 2026 – Present  
Saarbrücken, Germany

### POSTECH

M.S. in Artificial Intelligence

Mar 2022 – Feb 2024  
Pohang, South Korea

### Yonsei University

B.S. in Mathematics & Electrical and Electronic Engineering

Mar 2016 – Feb 2022  
Seoul, South Korea

## 💻 Research Experience

### Visual Computing and AI Department, MPI for Informatics

Doctoral Researcher

Apr 2026 – Present  
Saarbrücken, Germany

- Advisor: Prof. Christian Theobalt
- (1) Generative Human Model and Relighting / (2) Facial Animation and Motion Synthesis

### Computer Graphics Lab, POSTECH

Master's student

Mar 2022 – Feb 2024  
Pohang, South Korea

- Advisor: Prof. Seung-Hwan Baek
- (1) High-dimensional Light Properties / (2) Light-Matter Interaction Modeling

## 📄 Publications

### \* MULTI-DIMENSIONAL LIGHT PROPERTIES \*

#### [1] Hyperspectral Polarimetric BRDFs of Real-world Materials

Yunseong Moon, Ryota Maeda, Suhyun Shin, Inseung Hwang, Youngchan Kim, Min H. Kim, Seung-Hwan Baek  
SIGGRAPH Asia 2025

#### [2] Spectral and Polarization Vision: Spectro-polarimetric Real-world Dataset

Yujin Jeon\*, Eunsue Choi\*, Youngchan Kim, Yunseong Moon, Khalid Omer, Felix Heide, Seung-Hwan Baek  
CVPR 2024 (highlight)

#### [3] Neural Spectro-polarimetric Fields

Youngchan Kim, Wonjoon Jin, Sunghyun Cho, Seung-Hwan Baek  
SIGGRAPH Asia 2023

## Work Experience

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### NationA

AI/ML Engineer

Aug 2025 – Nov 2025

Seoul, South Korea

- Reproduce AI character motion generation algorithms for realistic and temporally coherent results
- Deploy motion synthesis and editing models via APIs to support 3D animation and content creation

### DEEPX

AI Compiler Engineer

May 2025 – Jul 2025

Seongnam, South Korea

- Restructure threading and tiling execution to enhance readability and support more flexible patterns
- Design and implement a layer numbering strategy for ONNX to optimize computation efficiency in NPU

### Beeble

AI Researcher

Apr 2024 – May 2025

Seoul, South Korea

- Develop human-centric vision models including PBR map extraction and monocular depth estimation
- Build a virtual light stage for multi-view 3D human rendering with PBR maps and controllable lighting
- Optimize AI models to extract pixel-accurate VFX passes (albedo, normal, depth, etc.) from video inputs
- Implement real-time video relighting with extracted PBR maps and HDRI light generation in web editor

## Teaching Experience

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### Lecturer

- Data Analyst Bootcamp (Cohort 12) - CODEIT Feb 2026 – Apr 2026
- Vibe Coding with Antigravity - YEUNGNAM UNIVERSITY Dec 2025
- AI Integration for Digital Transformation in Practice - KOSME Nov 2025
- Python and Data Analytics for Digital Transformation - SAMSUNG ELECTRONICS Apr 2024

### Teaching Assistant

- AI Engineer Bootcamp (Cohort 9) - CODEIT Dec 2025 – Apr 2026
- Deep Learning and Computer Vision - POSCO GROUP Oct 2022 / Jul 2023
- CS700G TinCS: Computational Imaging - POSTECH Spring 2023

## Project

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### 3D Face Simulation Pipeline for Synthetic Eye-Gaze Data Generation

TDK AIsight

- Develop 3D face modeling and capture pipeline for large-scale eye-gaze data generation

### AMPER (Aim-Measure-Predict-Evaluate-Recommend): The Paradigm of Digital Me

Harex InfoTech

- Develop Digital Me algorithm to manage the individual's state and provide recommendations

## Skills

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**LANGUAGES** Korean (Native - 5/5), English (Conversational - 3~4/5)

**PROGRAMMING & SW** Python, PyTorch, TensorFlow, OpenCV, NumPy, Matplotlib, C/C++, Linux, Docker

**GRAPHICS & RENDERING** Blender, Google Filament, Three.js, Mitsuba 2/3

## Reference

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### **Prof. Christian Theobalt**

Ph.D. advisor

- Director, Visual Computing and AI Department, MPI for Informatics
- Professor, Department of Computer Science, Saarland University
- Director, Saarbrücken Center for Visual Computing, Interaction and Artificial Intelligence
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### **Dr. Rishabh Dabral**

Ph.D. advisor

- Research Group Leader, 3D Visual Intelligence Research Group, MPI for Informatics
- ✉ [rdabral@mpi-inf.mpg.de](mailto:rdabral@mpi-inf.mpg.de) | 🏠 <https://rishabhdabral.github.io>

### **Prof. Seung-Hwan Baek**

M.S. advisor

- Associate Professor, Department of Computer Science and Engineering, POSTECH
- Affiliated Professor, Graduate School of Artificial Intelligence, POSTECH
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### **Prof. Ki Jun Yu**

B.S. advisor

- Associate Professor, Department of Electrical and Electronic Engineering, Yonsei University
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