

Sumin Hong

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Self-motivated applicant working the intersection of AI, multi-modality, and human-centered interfaces.

EDUCATION

Seoul National University Science and Technology

B.S. in Information Technology Management
CGPA:3.823/4 MAJOR GPA:3.846/4

Seoul, Korea | Mar.2017 - [Feb.2024]

Northumbria University

B.S. in Information Technology Management

London, UK | (*Dual Degree)

EXPERIENCE

RESEARCH LAB

KAIST Interaction Lab (KIXLAB)

Research Intern | Advisor - Juho Kim, Ph.D.

Daejeon, Korea | Jun.2023 - [Apr.2024]

- Researched on creativity support tool for visual designers and submitted a paper in ACM CHI
- Working a background character generation research for comics artists

UNIST Vision and Learning Lab (UVLL)

Research Intern | Advisor - Seungryul Baek, Ph.D.

Ulsan, Korea | Jan.2023 - Jun.2023

- Researched on incremental object detection, published a paper in CVPR Workshop, submitted in ICASSP
- Led the development of an object detection model for home appliances w. LG electronics.

Interaction Lab (IXLAB)

Research Intern | Advisor - Jin-woo Jeong, Ph.D.

Seoul, Korea | Jun.2021 - Dec.2022

- Researched on defect detection, facial expression recognition, and gaze visualization in online learning
- Published papers in ACM ETRA, ECCV Workshop, SCI Journal, and achieved 3rd place in the ECCV ABAW

CORPORATE

LucidDream

Part-time Developer(20h/week)

Seoul, Korea | Nov.2023 - [Jul.2024]

- Developing a skeleton-based anomaly detection model for the rehabilitation of developmental disabled children

PUBLICATIONS

CONFERENCE AND JOURNAL

[C2] CreativeConnect: Supporting Reference Recombination for Graphic Design Ideation with Generative AI

ACM CHI 2024 (UNDER REVIEW)

Daeun Choi, **Sumin Hong**, JeongEun Park, John Jun Young Chung, and Juho Kim

[C1] Class-wise Buffer Management For Incremental Object Detection: an Effective Buffer Training Strategy

IEEE ICASSP 2024 (TO APPEAR)

Junsu Kim, **Sumin Hong**, Chanwoo Kim, Jihyeon Kim, Yihalem Yimolal Tiruneh, Jeongwan On, Jihyun Song, Sunhwa Choi, and Seungryul Baek

[J1] Automatic Examination of Condition of Used Books with YOLO-based Object Detection Framework

COMPUTER SYSTEMS SCIENCE AND ENGINEERING, 47(2), 1611-1632, 2023 (JIF=4.397)

Sumin Hong and Jin-woo Jeong

WORKSHOP AND POSTER

[W3] An Effective Buffer Training Strategy for Class-Incremental Object Detection

IEEE/CVF CVPR 2023 WORKSHOP ON CONTINUAL LEARNING IN COMPUTER VISION (NON-ARCHIVAL)

Junsu Kim, **Sumin Hong**, Chanwoo Kim, Hoseong Cho, Yihalem Yimolal Tiruneh, Jihyeon Kim, Eunseo Kim, Jihyun Song, Sunhwa Choi, and Seungryul Baek

[W2] Ensemble of Multi-task Learning Networks for Facial Expression Recognition In-the-Wild with Learning from Synthetic Data

IEEE/CVF ECCV 2023 WORKSHOP ON AFFECTIVE BEHAVIOR ANALYSIS IN-THE-WILD

Jae-yeop Jeong¹, Young-gi Hong¹, **Sumin Hong**¹, Jiyeon Oh¹, and Jin-woo Jeong

[W1] Visualizing Instructor's Gaze Information for Online Video-based Learning: Preliminary Study

ACM ETRA 2022 WORKSHOP ON EYE TRACKING IN LEARNING AND EDUCATION

Daun Kim¹, Jae-yeop Jeong¹, **Sumin Hong**, Namsub Kim, and Jin-woo Jeong

[P3] Solutions for Data Imbalance in Object Detection

2023 SUMMER ANNUAL CONFERENCE OF IEIE(INSTITUTE OF ELETRONIC AND INFORMATION ENGINEERING)

Junsu Kim, **Sumin Hong**, Jihyun Kim, Jeongwan On, Chanwoo Kim, Yihalem Yimolal Tiruneh, Jihyun Song, Sunhwa Choi, and Seungryul Baek

[P2] Deep learning-based event recognition technology in mobile 360 video to expand social safety nets

2023 ANNUAL CONFERENCE OF HCIK(THE HCI SOCIETY OF KOREA)

Ha-yeong Yoon, Daun Kim, Jiyeon Oh, **Sumin Hong**, Ji-hun Seo, and Jin-woo Jeong

[P1] Implementation of Book damage detection techniques using Deformable DETR

2022 WINTER ANNUAL CONFERENCE OF KICS(KOREAN INSTITUTE OF COMMUNICATIONS AND INFORMATION SCIENCES)

Sumin Hong, Mihwan Yu, and Jinwoo Jeong

SELECTED PROJECTS

RESEARCH PROJECTS

[R4] SNS based Web-toon storytelling system

Volunteer Project |

Nov.2023

- Developed a web application that generating stories based on SNS keyword exploration

[R3] EmoFeed: Audience status feeding system with affective computing and generative AI

Capston Project |

Jan.2023 - Nov.2023

- Implemented a feedback system for anxious public speakers, visualizing the group status through a virtual avatar and graphs

[R2] Incremental Learning for UP Appliance Data Coverage Expansion

LG Electronics, UVLL |

Jan.2023 - Jun.2023

- Developed object detection model in home appliances and class incremental object detection strategy

[R1] Deep learning-based event recognition technology in mobile 360 video to expand social safety nets

IXLAB |

Apr.2022 - Oct.2022

- Visualized sound source and saliency in 360 video to detect hazardous situations

CORPORATE PROJECT

[I1] AR/AI-based home rehabilitation exercises for developmental disabled children

LucidDream, Ministry of

Health and Welfare, Myongji University Hospital | Oct.2023 - [Jun.2024]

- Developed skeleton-based anomaly detection for rehabilitation exercises

COURSEWORK PROJECTS

[P3] Face-Heaan: Face Recognition with Homomorphic Encryption

ITM146071: Information Security |

Apr.2023 - Jun.2023

- Built face verification system with homomorphic encryption-based cosine similarity metric, awarded as a best project

[P2] TODOMAP: Realtime location-based Todo-list application

ITM146078: Moblie Programming |

Sep.2023 - Dec.2023

- Developed a Kotlin Android app utilizing real-time user location, awarded as an outstanding project

[P1] Classification for crop and disease, using image and time series data

ITM146084: Business Analytics |

Nov.2023 - Dec.2023

- Managed time-series log, image for agriculture crop, awarded as outstanding project

AWARDS AND SCHOLARSHIPS

AWARDS

Gold Prize in Capstone Project

Seoul National University of Science and Technology | Nov.2023

PROJECT [R3]

3rd place in Learning from Synthesis Data Challenge

4th ECCV Workshop on Affective Behavior Analysis

in-the-wild | Jul.2022

PAPER [W2]

Outstanding Paper Award

Winter Annual Conference of KICS | Jan. 2022

PAPER [P1]

SCHOLARSHIPS

SeAH Haiam Scholarship

SeAH Corporate | 2023

OVER \$1,600

Tution Waiver

Seoul National University of Science and Technology | Spring and Fall 2017, 2023

FULL SCHOLARSHIP

Moksan Scholarship

Daewon Kangup Co.Ltd. | 2020

OVER \$800

TEACHING

ITM146091: Programming Language

Fall 2020 | Seoul National University of Science and Technology

TEACHING ASSISTANT

SKILLS

TECHNICAL

- Python, Javascript, Kotlin, Java
- Pytorch, Tensorflow, TFLite
- Computer Vision, NLP, Visualization, Time-series
- Object Detection, Image Generation, Text Generation, Anomaly Detection, Saliency Detection
- Flask, ReactJS, Django
- SQLite, Firebase
- \LaTeX