Chelhwon Kim

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Computer Vision Researcher with over 6 years of experience in a wide range of computer vision projects, including indoor 3D reconstruction and localization, cross-domain mapping, digital human creation, and remote assistance systems. Excited about the opportunity to contribute my skills and enthusiasm for innovation to a collaborative research team.

Experience

OCTOBER 2021 – PRESENT
Associate Staff Research Engineer | SONY R&D Center US Lab | San Jose, California
Worked on multiple 3DCG digital human creation projects. Optimized in-house 3D reconstruction pipeline, reducing process/operation time by over 50 %. Designed camera topology for volumetric capture system. Developed parametric material modeling for photorealistic relightable textures. Automated facial texture cleaning, reducing manual work by 40%. Kept up-to-date with state-of-the-art digital 3D content creation methods.

AUGUST 2020 – OCTOBER 2021
Computer Vision Engineer | Leia Inc. | Palo Alto, California
Developed a stereo video classification model for YouTube content, collecting datasets and refining features to improve accuracy. Collaborated with the Android team for model deployment on tablets. Enhanced depth map generation of human faces in videos. Conducted calibrations between stereo cameras and time-of-flight sensors to enhance depth map data.

APRIL 2016 – JUNE 2020
Senior Research Scientist | FX (Fuji Xerox) Palo Alto Lab | Palo Alto, California
Developed computer vision and deep learning algorithms for HCI systems, including indoor localization for tracking people, image to audio translation, tabletop telepresence with high-res document capturing, and web-based remote assistance systems, which led to 5 publications, 3 patents, and 1 software transfer.

JUNE 2013 – SEPTEMBER 2013
Research Intern | Nokia Research Center | Berkeley, California
Implemented and parallelized SLIC image segmentation on the Movidius platform, achieving 4x speedup.

MARCH 2005 – MAY 2008
Research Engineer | Nexteye Machine Vision | South Korea
Designed and implemented machine vision systems for classifying manufacturing defects. Experienced in the entire lifecycle, from developing computer vision algorithms to deploying and optimizing systems on the factory line.

Education

AUGUST 2010 – DECEMBER 2016
PH.D in Electrical Engineering | University of California, Santa Cruz | Santa Cruz, California
Thesis: Indoor Manhattan Spatial Layout Recovery from Monocular Videos (line-based SfM)

MARCH 2003 – FEBRUARY 2005
M.S. in Computer Engineering | Sungkyunkwan University | South Korea
Thesis: Structured light based depth edge detection for object shape recovery

MARCH 1999 – FEBRUARY 2003
B.S. in Computer Engineering (GPA 4.12, Rank 5/367) | Sungkyunkwan University | South Korea

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Google Scholar: https://scholar.google.com/citations?user=cPf0CScAAAAJ&hl=en

Personal website: https://chelhwon.github.io/