Sepidehsadat Hosseini

✉ sepidh@sfu.ca | 🎓 Sepid - Google Scholar

Education

Simon Fraser University   British Columbia, Canada
PhD in Computing Science, GPA: 4.11/4.3   Present
- Field: 3D Computer vision and Computer Graphics.

Seoul National University   Seoul, South Korea
Master of Science in Electrical and Computer Engineering, GPA: 95.1/100   August 2019
- Field: Intelligent Signal Processing, Computer Vision, Facial And Gesture Recognition.

Seoul National University   Seoul, South Korea
Bachelor of Science in Electrical and Computer Engineering, GPA: 88.6/100   March 2017
- Field: Smart Road Implementation Using Arduino Car.

Research-Experience

Simon Fraser University, Gruvi Lab.   British Columbia, Canada
Research Assistant, Supervisor: Professor Yasutaka Furukawa   September 2019 - Present
- Extreme Floor-plan Reconstruction from Indoor Panorama Images.
- Generative Adversarial Layout Refinement Network for Automated Floorplan Generation.

Seoul National University, SNU ISPL (Intelligent Signal Processing Lab.)   Seoul, Korea
Research Assistant, Supervisor: Professor Nam Ik Cho   January 2017 - August 2019
- Big Data-based CCTV Image Retrieval and Pedestrian Detection, Funded by Seoul Police R&D Department.
- Development of Image Processing Algorithm on X-Ray Images, Funded by JLK Inspection and Incheon Airport.
- Facial Expression, Age and gender Recognition, Funded by Korea Environmental Industry & Technology Institute.

LG Electronics, CTO, Intelligent Systems Research Center   Seoul, Korea
Research Intern   July 2017 - September 2017
- Face Spoofing Detection using Capsule based network.

Seoul National University, SNUCAPP (SNU Computer Architecture and Parallel Processing Lab.)   Seoul, Korea
Intern, Supervisor: Professor Hyuk Jae Lee   Jun 2016 - Jun 2017
- Implemented TLD System using Stereo Depth Map Estimation.
- Implemented Multi Camera Video Stitching System using Opencv.

Seoul National University, SNUCAD (SNU Computer Aided Design Lab.)   Seoul, Korea
Intern, Supervisor: Professor Taewhan Kim   October 2014 - October 2015
- Studied and Analyzed IP Security, Implemented IP Fingerprinting using ODCs.

Samsung Tech-win, Software Development Center   Seoul, Korea
Software Engineer Intern   Jun 2015 - August 2015
- Implemented an Application which Change SSF File (Samsung Video Container) to AVI 2.0 and MP4.

Selected Publications

JigsawPlan: Room Layout Jigsaw Puzzle Extreme Structure from Motion using Diffusion Models
Sepidehsadat Hosseini, Mohammad Amin Shabani, Saghar Irandoust, and Yasutaka Furukawa
2022 (Submitted)

Extreme Floorplan Reconstruction by Structure-Hallucinating Transformer Cascades
Sepidehsadat Hosseini, Yasutaka Furukawa
2022 (Submitted)

HouseDiffusion: Vector Floorplan Generation via a Diffusion Model with Discrete and Continuous Denoising

, Mohammad Amin Shabani, **Sepidehsadat Hosseini** , and Yasutaka Furukawa

2022 (Submitted)

House-GAN++: Generative Adversarial Layout Refinement Network

Nelson Nauata, **Sepidehsadat Hosseini**, Kai-Hung Chang, Hang Chu, Chin-Yi Cheng, and Yasutaka Furukawa

Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2021

GF-CapsNet: Using the Gabor Filter Responses and Capsule Networks for the Age/GenderEstimation and Facial Expression Recognition

Sepidehsadat Hosseini, Nam Ik Cho

Automatic Face and Gesture Recognition (FG), 2019

Multiple Face Tracking Method in the Wild Using Color Histogram Features

Hyuk Jin Kwon,Seok Hee Lee, **Sepidehsadat Hosseini**, Hyung Il Koo, Nam Ik Cho, IEEE

International Symposium on Signal Processing and Information Technology, 2017

Skills

Frameworks	Pytorch (Advanced), Tensorflow (Advanced), Caffe (Familiar)
Languages	Python (Advanced), C/C++ (Advanced), JavaScript (Familiar)
Softwares	MATLAB (Advanced), Qt (Familiar), Proteus (Familiar), PSpice (Familiar)

Teaching-Experience

Simon Fraser University   BC, Canada

Teacher Assistant

- Computational vision (Fall 2020, Spring 2023).
- Intro to Formal Verification(Fall 2022).
- Data Structures/Programming (Summer 2022).
- Introduction to Computing Science and Programming II (Summer 2020, Fall 2020, Summer 2021, Spring 2022).
- Special Topics in Artificial Intelligence - Machine Learning (Spring 2021).

Seoul National University   Seoul, Korea

Teacher Assistant

- Introduction to Electrical and Computer Engineering (Fall 2018).
- Physics I (Spring 2014).

Korean Telecom (KT) Dream School   Seoul, Korea

Volunteer Instructor

- Elementary and middle school Mathematics and English (2016).

Honors and Awards

SFU Computing Science Gradute Felowship

Fall 2019, Fall 2020, Fall 2021

SFU Computing Science Entrance Scholarship

Fall 2019

- Award valued at 10,000 CAD.

Seoul National University Excellent Student Global Scholarship

2017, 2018

- Award valued at $ 8,000 per year.

Brain Korea Scholarship, Excellent Researcher Award

2017, 2018

LG International Student Ambassador

2016-2017

Korean Government Scholarship

2012 - 2017

• Award valued at $97000.

Languages

English	TOEFL IBT: 100 (Reading: 30, Listening: 29, Speaking: 19, Writing: 22)
Korean	Advanced (TOPIK 5)
Persian	Native