Seungjae Han

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EDUCATION

2020 – Current **KAIST**
Ph.D. Candidate in School of Electrical Engineering
Advisor: Young-Gyu Yoon

2017 ~ 2020 **Yonsei University**
Bachelor of Science in School of Integrated Technology
Advisor: Jiwon Seo

PREPRINTS   (*co-first authors, **co-corresponding authors)

[1] H. Kim*, S. Bae*, J. Cho, H.-Y. Nam, J. Seo, **S. Han**, E. Yi, E. Kim, Y.-G. Yoon**, J.-B. Chang**, "IMPASTO: Multiplexed cyclic imaging without signal removal via self-supervised neural unmixing", bioRxiv, 2022.

[2] M. Eom**, S. Han***, G. Kim, E.-S. Cho, J. Sim, P. Park, K.-H. Lee, S. Kim, M. Rozsa, K. Svoboda, M. Choi, C.-H. Kim, A. Cohen, J.-B. Chang, Y.-G. Yoon, "Statistically unbiased prediction enables accurate denoising of voltage imaging data", bioRxiv, 2022.

[3] J. Sim*, C. E Park*, I. Cho*, K. Min, M. Eom, **S. Han**, H. Jeon, H.-J. Cho, E.-S. Cho, A. Kumar, Y. Chong, J. S. Kang, K. D. Piatkevich, E. E. Jung, D.-S. Kang, S.-K. Kwon, J. Kim, K.-J. Yoon, J.-S. Lee, E. S. Boyden, Y.-G. Yoon**, J.-B. Chang**, "Nanoscale resolution imaging of the whole mouse embryos and larval zebrafish using expansion microscopy", bioRxiv, 2022.

JOURNALS   (*co-first authors)

[1] C. Shin*, H. Ryu*, E.-S. Cho, **S. Han**, K.-H. Lee, C.-H. Kim, Y.-G. Yoon, "Three-dimensional fluorescence microscopy through virtual refocusing using a recursive light propagation network", *Medical Image Analysis*, 2022.

[2] E.-S. Cho*, **S. Han***, K.-H. Lee, C.-H. Kim, Y.-G.Yoon, "3DM: Deep decomposition and deconvolution microscopy for rapid neural activity imaging", *Optics Express*, 2021. (Editors' Pick, Image of the Week)

INTERNATIONAL CONFERENCES   (*co-first authors)

[1] J. Cho, **S. Han***, E.-S. Cho, K. Shin, Y.-G. Yoon, "Robust and Efficient Alignment of Calcium Imaging Data through Simultaneous Low Rank and Sparse Decomposition", *IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)*, 2023. (accepted)

[2] **S. Han**, E.-S. Cho, I. Park, K. Shin, Y.-G.Yoon, "Efficient Neural Network Approximation of Robust PCA for Automated Analysis of Calcium Imaging Data", 24th *International Conference on Medical Image Computing & Computer Assisted Intervention (MICCAI)*, 2021.

[3] **S. Han**, T. Kang, J. Seo, "Smartphone Application to Estimate Distances from LTE Base Stations Based on Received Signal Strength Measurements", 34th *International Technical Conference on Circuits/Systems, Computers and Communications (ITC-CSCC)*, 2019. (Oral)

[4] H.-S. Moon, W. Kim, **S. Han**, J. Seo, "Observation of Human Trajectory in Response to Haptic Feedback from Mobile Robot", *18th International Conference on Control, Automation and Systems (ICCAS),* 2018.

DOMESTIC CONFERENCES

[1] **S. Han**, S. Kim, J. Seo, "Machine Learning Based Sound Source Localization in the Indoor Environment", *2019 Korean Navigation Institute (KONI) Conference*, 2019.

[2] S. Kim, **S. Han**, J. Seo, "Sound Source Localization in the Indoor Environment Based on Time Difference of Arrival Measurements", *2019 Korean Navigation Institute (KONI) Conference*, 2019.

[3] **S. Han**, H. -S. Moon, J. Seo, "Development of Human Following Mobile Robot Utilizing Haptic Signals", *2018 Korean Navigation Institute (KONI) Conference*, 2018.

AWARDS & HONORS

Undergraduate Research Program (Research fund) & Best Project Award
2019, Korea Foundation for the Advancement of Science & Creativity

Short-term visiting researcher to Boğaziçi University, Turkey (Travel and lodging cost)
2019, Yonsei University

IT Consilience Creative Program (Tuition waiver & Stipend)
2017 ~ 2019, Ministry of Science, ICT and Future Planning

ACADEMIC SERVICES

MICCAI Reviewer   *2022*

TALKS

"*Efficient methods to analyze big data from the brain*", Songlim High school, South Korea   *2022. 08.*

TEACHING EXPERIENCES

Teaching Assistant, KAIST
Electronics Design Lab. (EE305)   Fall, 2022
Special Topics in Electrical Engineering <AI Capston Design> (EE488)   *Spring, 2022*
Electronics Design Lab. (EE405A)   *Fall, 2021*
Basics of Artificial Intelligence (CoE202A)   *Spring, 2021 & Fall, 2020*

REFERENCE

Available upon request