

Daniel Rho

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Research Interests

Dynamic neural rendering, neural scene representation, physics-informed neural networks, and computer graphics

Education

University of North Carolina at Chapel Hill

Ph.D. in Computer Science

- Advisor: [Roni Sengupta](#)

North Carolina, United States

Aug. 2024 - Present

Sungkyunkwan University

MSE in Artificial Intelligence

- Thesis: "Neural Residual Flow Fields for Efficient Video Representations" (Advisor: [Jong Hwan Ko](#), Co-advisor: [Eunbyung Park](#))
- CGPA: 4.31 / 4.5

Seoul, Korea

Sep. 2020 - Aug. 2022

Sungkyunkwan University

Bachelor of Economics & BSE in Computer Science and Engineering

- CGPA: 4.23 / 4.5
- Major GPA (Computer Science and Engineering): 4.44 / 4.5 (top 3%)
- Dean's List, 2018

Seoul, Korea

Mar. 2014 - Aug. 2020

Publications

CONFERENCE PUBLICATIONS

F-3DGS: Factorized Coordinates and Representations for 3D Gaussian Splatting

Xiangyu Sun, Joo Chan Lee, **Daniel Rho**, Jong Hwan Ko, Usman Ali, Eunbyung Park

ACM MM 2024 - Proceedings of the 32nd ACM International Conference on Multimedia

Compact 3D Gaussian Representation for Radiance Field

Joo Chan Lee, **Daniel Rho**, Xiangyu Sun, Jong Hwan Ko, Eunbyung Park

CVPR 2024 (highlight) - Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition

Coordinate-Aware Modulation for Neural Fields

Joo Chan Lee, **Daniel Rho**, Seungtae Nam, Jong Hwan Ko, Eunbyung Park

ICLR 2024 (spotlight) - International Conference on Learning Representations

Mip-Grid: Anti-aliased Grid Representations for Neural Radiance Fields

Seungtae Nam, **Daniel Rho**, Jong Hwan Ko, Eunbyung Park

NeurIPS 2023 - Advances in Neural Information Processing Systems

FFNeRV: Flow-Guided Frame-Wise Neural Representations for Videos

Joo Chan Lee, **Daniel Rho**, Jong Hwan Ko, Eunbyung Park

ACM MM 2023 - Proceedings of the 31th ACM International Conference on Multimedia

Masked Wavelet Representation for Compact Neural Radiance Fields

Daniel Rho*, Byeonghyeon Lee*, Seungtae Nam, Joo Chan Lee, Jong Hwan Ko, Eunbyung Park

CVPR 2023 - Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition

Regression to Classification: Waveform Encoding for Neural Field-Based Audio Signal Representation

TaeSoo Kim*, **Daniel Rho***, Gahui Lee, JaeHan Park, Jong Hwan Ko

ICASSP 2023 - IEEE International Conference on Acoustics, Speech and Signal Processing

Neural Residual Flow Fields for Efficient Video Representations

Daniel Rho, Junwoo Cho, Jong Hwan Ko, Eunbyung Park

ACCV 2022 - Proceedings of the Asian Conference on Computer Vision

Streamable Neural Fields

Junwoo Cho*, Seungtae Nam*, **Daniel Rho**, Jong Hwan Ko, Eunbyung Park

ECCV 2022 - Proceedings of the European Conference on Computer Vision

NAS-VAD: Neural Architecture Search for Voice Activity Detection

Daniel Rho, Jinhyeok Park, Jong Hwan Ko

Interspeech 2022 - Proceedings of Interspeech

Professional Experience

Graduate Research Assistant University of North Carolina at Chapel Hill	Chapel Hill, NC, USA Aug. 2024 - Present
Research Engineer AI Tech Lab, KT	Seoul, Korea Jul. 2022 - Jun. 2024
Graduate Research Assistant IRIS LAB, Sungkyunkwan University	Seoul, Korea Sep. 2020 - Jul. 2022
Undergraduate Research Assistant IRIS LAB, Sungkyunkwan University	Seoul, Korea Jun. 2019 - Aug. 2020

Skills

Programming	CUDA, Python (PyTorch, TensorFlow), C/C++
Miscellaneous	Piano, Zertifikat Deutsch B1

Patents

“A Method for Inferring of Generating Direction of Sound Using Deep Network and an Apparatus for the Same”	Korea
Application No.: 10-2020-0032737	2020

Research Projects

“Deep Learning Techniques for Multi-Intelligence using Drones”	Korea
Ministry of Science and ICT, Korea	Jan. 2021 - Dec. 2021
“Deep Neural Network Based Real-Time Accurate Voice Source Localization using Drones”	Korea
Ministry of Science and ICT, Korea	Jun. 2019 - Dec. 2020

Awards, Honors and Scholarships

Jan. 2021 First Place & Ministerial Award , Artificial Intelligence Grand Challenge, Ministry of Science and ICT	Korea
Fall 2020 Sungkyun Honorable Scholarship (Fall 2020 - Spring 2022) , Sungkyunkwan University	Korea
Jun. 2019 Third Place , Artificial Intelligence Grand Challenge, Ministry of Science and ICT	Korea
Fall 2019 Academic Excellence Scholarship , Sungkyunkwan University	Korea
Fall 2018 Academic Excellence Scholarship , Sungkyunkwan University	Korea

Academic Services

Conference Reviewer	CVPR 2024, NeurIPS 2024, ICLR 2025, ACM MM 2024
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Extracurricular Activities

Teaching Assistant Sungkyunkwan University (SKKU) <ul style="list-style-type: none">Operating Systems (Fall 2020)Basic data structures and algorithms (Spring-Fall 2019)	Korea
Volunteer SKKU-HKUST Intercultural Peer Learning Program	Korea Jul. 2018
Honorary Discharge as a Sergeant Republic of Korea Air Force	Korea Jan. 2016 - Jan. 2018
Student Council Member College of Social Sciences, SKKU	Korea Mar. 2015 - Dec. 2015