

Hanju Yoo

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SUMMARY

I am a Ph.D. student researching for **deep learning for communications** and **information theory for deep learning** at the Intelligence Networking Lab., Yonsei University, Korea. Before joining the lab, I earned a B.E. from the School of Integrated Technology at Yonsei University, graduating with the highest honors. My research interest includes semantic communications, learned image compression, and computer vision. I was an exhibitor at CES 2023 on behalf of Yonsei University, and am a recipient of the 2022 Qualcomm IT Tour Program. Committed to community engagement, I have served as a teaching assistant for three years and have two years of student council experience. I also love to solve real-world problems by creating automated, sustainable, and systematic solutions.

EDUCATION

2021 — Present	Yonsei University Ph.D. Student (<i>Advisor: Prof. Chan-Byoung Chae</i>)	Seoul, Korea
2018 — 2021	Yonsei University B.E. Integrated Technology (GPA: 4.15/4.3, Graduated with Highest Honors)	Seoul, Korea

PUBLICATIONS

- H. Yoo**, D. Choi, Y. Kim, Y. Kim, S. Kim, and C.-B. Chae, “Bridging the Gap Between Neural Networks and Wireless Systems for 6G Semantic Communications,” *Submitted*.
- Y. Kim, H.-J. Moon, **H. Yoo**, B.-N. Kim, K.-K. Wong, and C.-B. Chae, “A State-of-the Art Survey on Full Duplex Network Design,” *Proc. IEEE*, pp. 1–24, Feb. 2024
- H. Yoo**, L. Dai, S. Kim, and C.-B. Chae, “On the Role of CNN and ViT on Semantic Communications: Analysis and Prototype Validation,” *IEEE Access*, vol. 11, pp. 71528–71541, July 2023
- H. Yoo**, L. Dai, S. Kim, and C.-B. Chae, “Real-Time Semantic Communications With a Vision Transformer,” *IEEE Int. Conf. Commun. Workshops (ICC WKSHPs)*, May 2022

SYSTEM DEMONSTRATIONS

Jan. 2024	Exhibitor, IEEE GLOBECOM 2024 <i>Demonstrated zooming-based semantic communications for entropy maximization.</i>
Feb. 2023	Exhibitor, CES 2023 <i>Demonstrated real-time wireless semantic communications testbed in behalf of Yonsei college of engineering.</i>
Feb. 2023	Exhibitor, IEEE ICC 2022 <i>Demonstrated world-first real-time wireless semantic communications testbed.</i>

AWARDS AND HONORS

Aug. 2022	Recipient, Qualcomm IT Tour Program <i>Participated in the Qualcomm IT Tour, a fully-funded program providing a visit tof Qualcomm’s San Diego headquarters with executive presentations and networking opportunities.</i>
Feb. 2021	Graduated with Highest Honors <i><1% in college of engineering, ranked 1st</i>
Mar. 2018	Full Scholarship for Undergraduate <i>Issued by Ministry of Science and ICT of Korea (MSIP) and National IT Industry Promotion Agency (NIPA)</i>

EXPERIENCES

Jul. 2024 — Aug. 2024	Visiting Student , Tsinghua University, China <i>Collaborated on the semantic communications testbed. (Full funded)</i>
Mar. 2021 — Dec. 2023	Teaching Assitant , Computational Thinking and SW Programming, Yonsei University <i>Led weekly 4-hour Python lectures and prepared course materials and exams.</i>

PROJECTS

2011 — 2018	KBoost <i>A Windows process cleaner with 50k+ downloads, featured in IT Donga software reviews¹.</i>
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¹<https://it.donga.com/23713/>

SKILLS

- **Languages:** Korean (Native), English (Fluent, TEPS 521)
- **Foundational Expertise in EECS:** Communications Theory, Computer Networks, Operating Systems, Computer Architecture, Parallel/GPU Computing, Compiler Design, and Computational Theory
- **Programming:** Python, Matlab, Tensorflow, C/C++ (Fluent), Javascript, Ruby, CUDA, LabVIEW (Intermediate)