

Jae-Ho Choi

Doctoral Student, Dept. of EE, POSTECH

Address Unit 310, LG Research Bld., 77 Cheongam-Ro. Nam-Gu. Pohang. Gyeongbuk. Korea.
37673
E-Mail jhchoi93@postech.ac.kr gogoho77@gmail.com
Website <https://gogoho88.github.io/online-cv/>

RESEARCH INTEREST

- **Wireless Sensing**
 - Radar Signal Processing
 - RF-Based Indoor Localization
 - RF-Based Crowd Counting
 - RF-Based Health Monitoring
 - SAR Image Detection / Classification
- **Machine/Deep Learning for RF Data**
 - Radio-Centric Network, Learning scheme
 - Clutter-Invariant Learning
 - Data-Efficient Learning
 - Domain Adaptation
- **Sensor Fusion**
 - Multi-Modal Learning
 - Sensor Calibration

* RF: Radio Frequency, SAR: Synthetic Aperture Radar

EDUCATION

Ph.D., Dept. of Electrical Eng., POSTECH, Pohang, Korea <i>GPA: 3.95/4.3</i> Advisors: Prof. Kyung Tae Kim	Feb. 2019 – present
M.S., Dept. of Electrical Eng., POSTECH, Pohang, Korea <i>GPA: 3.73/4.3</i> Advisor: Prof. Kyung Tae Kim	Feb. 2017 – Feb. 2019
B.E., Dept. of Computer Sci., Korea Univ., Seoul, Korea <i>GPA: 4.12/4.5</i>	Mar. 2011 – Feb. 2017

PROFESSIONAL EXPERIENCE

Research Assistant, POSTECH <i>Intelligent Radar Signal Processing Lab.</i>	Feb. 2017 – present
Internship, Samsung Electronics <i>Memory Division, Flash Circuit Design Team</i>	Jun. 2016 – Aug. 2016

HONOR & AWARD

Feb, 2022. **Excellence Prize, POSTECH-EE Outstanding Research Award.**

Oct, 2021. **Encouragement Prize**, *KAI Aerospace Paper Award*.

Nov, 2020. **Silver Prize**, *Electromagnetic Paper Award Sponsored by Korean Institute of Electromagnetic Engineering and Science/Korea Communication Agency*.

Nov, 2019. **Grand Prize**, *Electromagnetic Paper Award Sponsored by Korean Institute of Electromagnetic Engineering and Science/Korea Communication Agency*.

Aug, 2018. **Best Paper Award (IEEE Seoul Chapter)**, *2018 KIEES Summer Conference*.

PUBLICATION (INTERNATIONAL ONLY)

International Journal & Top Conference

- [1] **J.-H. Choi**, K.-B. Kang, K.-T. Kim, "Fusion-rPPG: Video-RF Fusion Transformer for Advanced Remote Physiology Measurement," *AAAI Conf. Artif. Intell. (AAAI)*, Submitted.
- [2] **J.-H. Choi**, J.-E. Kim, K.-T. Kim, "Radar-Based People Counting under Heterogeneous Clutter Environments," *IEEE Internet Things J. (IoTJ)*, Submitted.
- [3] N.-H. Jeong, **J.-H. Choi**, G. Lee, J.-H. Park, K.-T. Kim, "Feature Selection for SAR Target Discrimination and Efficient Two-Stage Detection Method," *Remote Sens.*, Submitted.
- [4] N.-H. Jeong, M. Kim, **J.-H. Choi**, K.-T. Kim, "Beam Scheduling of Maritime Multifunctional Radar Based on Binary Integration," *IEEE Sensors J. (SensJ)*, Submitted.
- [5] **J.-H. Choi**, K.-B. Kang, K.-T. Kim, "Remote Respiration Monitoring of Moving Person Using Radio Signals," *Proc. Eur. Conf. Comput. Vis. (ECCV)*, Tel Aviv, Israel, Oct. 2022.
- [6] **J.-H. Choi**, J.-E. Kim, K.-T. Kim, "Deep Learning Approach for Radar-Based People Counting," *IEEE Internet Things J. (IoTJ)*, May. 2022. (2021 IF: 10.238)
- [7] **J.-H. Choi**, M.-J. Lee, N.-H. Jeong, G. Lee, K.-T. Kim, "Fusion of Target and Shadow Regions for Improved SAR ATR," *IEEE Trans. on Geosci. Remote Sens. (TGRS)*, Apr. 2022. (2021 IF: 8.125)
- [8] K.-B. Kang, **J.-H. Choi**, B.-L. Cho, J.-S. Lee, K.-T. Kim, "Analysis of Micro-Doppler Signatures of Small UAVs Based on Doppler Spectrum," *IEEE Trans. Aerosp. Electron. Syst. (TAES)*, Oct. 2021. (2021 IF: 3.491)
- [9] I.-O. Choi, M. Kim, **J.-H. Choi**, J.-K. Park, S.-H. Park, K.-T. Kim, "Robust Cardiac Rate Estimation of an Individual," *IEEE Sensors J. (SensJ)*, Jul. 2021. (2021 IF: 4.325)
- [10] **J.-H. Choi**, J.-E. Kim, K.-T. Kim, "People Counting Using IR-UWB Radar Sensor in a Wide Area," *IEEE Internet Things J. (IoTJ)*, Apr. 2021. (2021 IF: 10.238)
- [11] J.-E. Kim, **J.-H. Choi**, K.-T. Kim, "Robust Detection of Presence of Individuals in an Indoor Environment using IR-UWB Radar," *IEEE Access*, Jun. 2020. (2021 IF: 3.476)

Other International Conference

- [1] M.-J. Lee, N.-H. Jeong, **J.-H. Choi**, G. Lee, K.-T. Kim, "A Study on the Synthesis of MSTAR SAR Images for Change Detection Experiments," *Int. Symp. Remote Sens.*, May. 2021.
- [2] **J.-H. Choi**, J.-E. Kim, N.-H. Jeong, S.-H. Jin, K.-T. Kim, "Accurate People Counting Based on Radar: Deep Learning Approach," *IEEE Radar Conf. (RadarConf)*, Sep. 2020.

PATENT (DOMESTIC)

- RADAR-BASED DETECTION SYSTEM USING DOMAIN ADAPTATION, {KR Patent pending; 1020200182698}.

- PEOPLE COUNTING APPARATUS BASED ON RADAR USING DEEP LEARNING, {KR Patent granted; 1022801900000}.

ACADEMIC SERVICE

Journal Reviewer

IEEE Internet of Things Journal (**IoTJ**)
IEEE Sensors Journal (**SensJ**)
IEEE Transactions on Aerospace and Electronic Systems (**TAES**)
IEEE Access
Remote Sensing

Conference Reviewer

European Conference on Computer Vision (**ECCV**)

TEACHING

Teaching Assistant, POSTECH

Fall 2021

AI-Based Energy Engineering (Grad. course)

Teaching Assistant, POSTECH

Spring 2017

Micro-processor (Undergrad. course)

REFERENCE

Prof. Kyung Tae Kim, Full professor, POSTECH

Relationship: MS & Ph.D. advisor

E-mail: kkt@postech.ac.kr

Prof. Sung Ho Kim, Full professor, Yeong-Nam University

Relationship: Collaborator

E-mail: sunghokim@yu.ac.kr