

# Juheon Yi

johnyi0606@snu.ac.kr | +82 10-4160-1455 (mobile) | <https://juheonyi.github.io>

## RESEARCH INTERESTS

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- Mobile/embedded deep learning
- AR/VR/MR
- Wireless networking

## EMPLOYMENT

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**Institute of Computer Technology, Seoul National University** **Seoul, Korea**  
Researcher, as part of alternative compulsory military service in Korea *Jun 2020 – Present*

**Institute of New Media and Communications (INMC), Seoul National University** **Seoul, Korea**  
Researcher, as part of alternative compulsory military service in Korea *Sep 2018 – May 2020*

## EDUCATION

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**Seoul National University** **Seoul, Korea**  
M.S. in Electrical and Computer Engineering (Advisor: Prof. Sunghyun Choi) *Sep 2016 – Aug 2018*

- Thesis: Edge-Assisted Real-Time Image Super-Resolution in Mobile Devices
- GPA: 4.25/4.30

**Seoul National University** **Seoul, Korea**  
B.S. in Electrical and Computer Engineering *Mar 2012 – Aug 2016*

- GPA: 3.86/4.30 (*Magna Cum Laude*)

## PUBLICATIONS

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### Conference

- [ACM MobiCom 2020] **Juheon Yi**, Sunghyun Choi, and Youngki Lee, "EagleEye: Wearable Camera-based Person Identification in Crowded Urban Spaces," ACM International Conference on Mobile Computing and Networking 2020.  
(Acceptance ratio: 17.2% = 24/139, summer round)
- [IEEE SECON 2018] **Juheon Yi**, Weiping Sun, Jonghoe Koo, Seongho Byeon, Jaehyuk Choi, and Sunghyun Choi, "BlueScan: Boosting Wi-Fi Scanning Efficiency Using Bluetooth Radio," IEEE International Conference on Sensing, Communication and Networking 2018.  
(Acceptance ratio: 23.2% = 49/211)
- [ACM Multimedia 2017] Jonghoe Koo, **Juheon Yi**, Joongheon Kim, Mohammad A. Hoque, and Sunghyun Choi, "REQUEST: Seamless Dynamic Adaptive Streaming over HTTP for Multi-Homed Smartphone under Resource Constraints," ACM Multimedia 2017.  
(Acceptance ratio: 28.3% = 191/675)

### Journal

- [IEEE TMC 2019] Jonghoe Koo, **Juheon Yi**, Joongheon Kim, Mohammad A. Hoque, and Sunghyun Choi, "Seamless Dynamic Adaptive Streaming in LTE/Wi-Fi Integrated Network under Smartphone Resource Constraints," *IEEE Transactions on Mobile Computing*, July 2019.

## HONORS AND AWARDS

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- Presidential Science Scholarship for undergraduate studies *Mar 2012 – Aug 2016*
  - Full scholarship (\$10,000 / year) for 4 years, funded by Korea Student Aid Foundation (KOSAF)
  - Granted to only 100 out of the entire nation's natural science and engineering freshmen in 2012.

- SNU Tomorrow's Edge Membership (STEM)  
- Honor society in College of Engineering, Seoul National University

*Mar 2014 –*

## SERVICES

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### Reviewer

- IEEE DySPAN 2018, IEEE WCNC 2019, IEEE WCNC 2020

## RESEARCH PROJECTS

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### AR-Driven Person Identification in Crowded Urban Spaces *Jan 2019 – Aug 2019*

- Designed an end-to-end mobile system that utilizes heterogeneous processors on mobile and cloud to execute multi-DNN face identification pipeline at low latency

### Edge-Assisted Real-Time Image Super-Resolution in Mobile Devices *Jan 2018 – Dec 2018*

- Designed an offloading system to deliver 30 fps DNN-based image super-resolution in smartphones

### Dual Interface Synchronized Hybrid V2X Research by Simulation *Sep 2017 – Dec 2017*

- Participated in MATLAB-based 802.11p (DSRC) and 3GPP LTE-based V2V simulator development

### Energy-Efficient Wi-Fi Scanning Framework for Smartphones *Sep 2016 – Aug 2017*

- Designed a Bluetooth radio-aided energy-efficient Wi-Fi scanning framework for smartphones

### Seamless DASH Video Streaming for Multi-Homed Smartphones *Sep 2016 – Apr 2017*

- Designed a Lyapunov optimization-based DASH (Dynamic Adaptive Streaming over HTTP) framework for LTE/Wi-Fi integrated smartphone to optimize resource usage and video quality

## UNDERGRADUATE RESEARCH EXPERIENCE

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### Multimedia and Wireless Networking Lab., Department of ECE, Seoul National University

(advisor: Prof. Sungyun Choi)

*Feb 2016 – Aug 2016*

- Developed an RSSI-based 2.4 GHz interference classification algorithm using Bluetooth radio

### Design of Autonomous Driving and Future Traffic System

*Jun 2015 – Sep 2015*

Leader of a 3-team member project

- Designed an RC car-based autonomous driving system with V2V communication using microprocessors (Arduino, Raspberry Pi), sensors (LIDAR, infrared, vision), and communication module (Bluetooth) [[video](#)] [[poster](#)]
- Won participation prize in 2015 SNU College of Engineering Creative Design Exhibition

## LANGUAGE

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### English

- TOEFL iBT 113/120 (expired)

## TEACHING EXPERIENCE

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- SNU M2608.001200 Introduction to Data Communication Network, Fall 2017 (head TA)
- SNU 033.017 Basic Calculus 2, Fall 2014 (English lecture for foreign students)
- SNU 033.016 Basic Calculus 1, Spring 2014 (English lecture for foreign students)