# Juheon Yi

johnyi0606@snu.ac.kr | +82 10-4160-1455 (mobile)

## RESEARCH INTERESTS

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

## EMPLOYMENT

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

## EDUCATION

**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

### Conference

- **[ACM MobiCom 2020]** **Juheon Yi**, Sunghyun Choi, and Youngki Lee, “EagleEye: Wearable Camera-based Person Identification in Crowded Urban Spaces,” accepted to *ACM International Conference on Mobile Computing and Networking 2020*. (Acceptance ratio: 17.2% = 24/139) [pdf]
- **[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,” in *Proc. IEEE International Conference on Sensing, Communication and Networking* 2018. (Acceptance ratio: 23.2% = 49/211) [pdf][slides]
- [**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," *in Proc. ACM Multimedia 2017*. (Acceptance ratio: 28.3% = 191/675) [pdf]

### 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. (Impact factor: 4.098) [pdf]

## HONORS AND AWARDS

- 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) *Mar 2014 –*
  - Honor society in College of Engineering, Seoul National University

## SERVICES

**Reviewer**

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

## RESEARCH PROJECTS

**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

**Multimedia and Wireless Networking Lab., Department of ECE, Seoul National University (advisor: Prof. Sungyhun 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

**English**

- TOEFL iBT 113/120 (expired)

## TEACHING EXPERIENCE

- 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)