Juheon Yi

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RESEARCH INTERESTS

- **Video Analytics**
- **Mobile/Edge AI systems**
- **Mixed Reality (MR)**

EDUCATION

Ph.D., Computer Science and Engineering, Seoul National University, Korea *Sep 2020 –Present*
Advisor: Youngki Lee

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

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

EXPERIENCES

Nokia Bell Labs, Cambridge, United Kingdom *Sep 2021 – Nov 2021*
Researcher Intern (mentor: Chulhong Min)

Institute of Computer Technology, SNU, Korea *Jun 2020 – Aug 2020*
Researcher, as part of alternative military service

Institute of New Media and Communications, SNU, Korea *Sep 2018 – May 2020*
Researcher, as part of alternative military service

HONORS AND AWARDS

- BK21 Best Graduate Student Award 2022, Seoul National University
- Star Researcher Award 2021, Dept. of CSE, Seoul National University
- AI Star Fellowship 2021, AI Institute of Seoul National University ($7,000)
  - Awarded to top 11 Ph.D. students in SNU
- Best Paper Award, ACM Students in MobiSys 2021
- Ph.D. Research Encouragement Funding 2021, National Research Foundation of Korea ($18,000)
- Microsoft Research Asia Ph.D. Fellowship 2020 ($10,000)
  - Awarded to top 12 Ph.D. students in the Asia-Pacific region
- Presidential Science Scholarship, 2012-2016, Korea Student Aid Foundation ($40,000)
  - Awarded to top 100 freshmen in Korea

PUBLICATIONS

Conference

- **[IEEE INFOCOM 2022]** Kichang Yang, **Juheon Yi**, Kyungjin Lee, and Youngki Lee, "FlexPatch: Fast and Accurate Object Detection for On-Device High-Resolution Live Video Analytics," IEEE International Conference on Computer Communications 2022.
  (Acceptance rate: 19.9%=225/1129)
- **[ACM MobiCom 2020]** **Juheon Yi** and Youngki Lee, "Heimdall: Mobile GPU Coordination Platform for Augmented Reality Applications," ACM International Conference on Mobile

Computing and Networking 2020.
(Acceptance rate: 17.8% = 39/218, winter round)

- **[ACM MobiCom 2020]** Kyungjin Lee, **Juheon Yi**, Youngki Lee, Sunghyun Choi, and Young Min Kim, "GROOT: A Real-time Streaming System for High-Fidelity Volumetric Videos," ACM International Conference on Mobile Computing and Networking 2020.
(Acceptance rate: 17.8% = 39/218, winter round)
- **[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 rate: 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 rate: 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 rate: 28.3% = 191/675)

Journal

- **[IEEE TMC 2022] Juheon Yi**, Seongwon Kim, Joongheon Kim, and Sunghyun Choi, "Supremo: Cloud-Assisted Low-Latency Super-Resolution in Mobile Devices," IEEE Transactions on Mobile Computing, May 2022.
- **[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.

Workshops, Posters, and Demo

- **[ACM MobiSys 2022]** HyunA Seo, **Juheon Yi**, and Youngki Lee, "LIVE: Life-Immersive Virtual Environment with Physical Interaction-aware Adaptive Blending," ACM MobiSys 2022 Poster.
- **[ACM AIChallengeIoT 2021] Juheon Yi**, Chulhong Min, and Fahim Kawsar, "Vision Paper: Towards Software-Defined Video Analytics with Cross-Camera Collaboration," ACM AIChallengeIoT 2021 (collocated with ACM SenSys 2021).
- **[ACM SMS 2021] Juheon Yi**, "Mobile-Cloud Cooperative Deep Learning Platform for Mixed Reality Applications," ACM Students in MobiSys 2021.

PROFESSIONAL SERVICES

Technical Program Committee

- EuroSys 2022 (Shadow PC), ACM SenSys 2022 (Shadow PC)
- ACM Wireless of the Students, by the Students, and for the Students (S^3) Workshop 2021 (collocated with ACM MobiCom 2021)

Reviewer

- Journal: IEEE TMC, ACM IMWUT
- Conference: ACM CSCW 2023, HAI 2022, IEEE WCNC 2020, 2019, IEEE DySPAN 2018

INVITED TALKS

- "Mobile-Cloud Cooperative AI Platform for Scalable Video Analytics"
- Rising Star Spotlight, SNU Summer AI School 2022 *Aug 2022*

- "Mobile AI Platform for Mixed Reality"
  - IEEE Information Theory Society, Santa Clara Valley *Feb 2022*
  - Electronic & Information Research Information Center (EIRIC), Korea *Mar 2021*
  - A3 Foresight Workshop
  on Intelligent IoT for Empowering the People's Lifestyle and Well-being *Jan 2021*

TEACHING ASSISTANT

- SNU M1522.003300 Mobile and Ubiquitous Computing, Spring 2021
- SNU 4190.406B Mobile Computing and Applications, Fall 2020
- SNU M2608.001200 Introduction to Data Communication Network, Fall 2017
- SNU 033.017 Basic Calculus 2, Fall 2014
- SNU 033.016 Basic Calculus 1, Spring 2014