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 *Feb 2024*
Advisor: Youngki Lee

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

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

EXPERIENCES

Nokia Bell Labs, Cambridge, United Kingdom *Dec. 2023 – Present*
Researcher Scientist

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

- Best Ph.D. Thesis Award, Dept. of CSE, SNU, 2024
- Sang Lyul Min Systems Research Fellowship, Dept. of CSE, SNU, 2024
- Best Paper Award Runner-up, ACM ImmerCom 2023
- Best Graduate Student Award, BK21 SNU, 2022
- AI Star Fellowship, AI Institute of SNU, 2021
- Star Researcher Award, Dept. of CSE, SNU, 2021
- Best Paper Award, ACM Students in MobiSys, 2021
- Global Ph.D. Fellowship 2021, National Research Foundation of Korea, 2021
- Microsoft Research Asia Ph.D. Fellowship 2020
  - Awarded to top 12 Ph.D. students in the Asia-Pacific region
- Presidential Science Scholarship, Korea Student Aid Foundation, 2012-2016
  - Awarded to top 100 freshmen in Korea

PUBLICATIONS

Full Papers

- **[ACM MobiCom 2023]** Kyungjin Lee, **Juheon Yi**, and Youngki Lee, “FarfetchFusion: Towards Fully Mobile Live 3D Telepresence Platform.” (Acceptance rate: 29.4% = 40/136, summer round)

- **[IEEE ICASSP 2023]** Hyunseok Oh, **Juheon Yi**, and Youngki Lee, “Papez: Resource-efficient Speech Separation with Auditory Working Memory.”
- **[IEEE TMC 2022] Juheon Yi**, Seongwon Kim, Joongheon Kim, and Sunghyun Choi, "Supremo: Cloud-Assisted Low-Latency Super-Resolution in Mobile Devices."
- **[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.” (Acceptance rate: 19.9%=225/1129)
- **[ACM MobiCom 2020] Juheon Yi** and Youngki Lee, “Heimdall: Mobile GPU Coordination Platform for Augmented Reality Applications.” (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.” (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.” (Acceptance rate: 17.2% = 24/139, summer round)
- **[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 SECON 2018] Juheon Yi**, Weiping Sun, Jonghoe Koo, Seongho Byeon, Jaehyuk Choi, and Sunghyun Choi, “BlueScan: Boosting Wi-Fi Scanning Efficiency Using Bluetooth Radio.” (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.”(Acceptance rate: 28.3% = 191/675)

Workshops, Posters, and Demo
- **[ACM ImmerCom 2023 (collocated with MobiCom 2023)** Seokgyeong Shin, **Juheon Yi**, Minkyung Jeong, and Youngki Lee, “FAST: Fast and Accurate Adaptation in Live Video Analytics Using Intermediate Features.”
- **[ACM SenSys 2022 Poster]** Hyunwoo Jung, **Juheon Yi**, and Youngki Lee, “A Study on Thermal Issues in Mobile Extended Reality Applications.”
- **[ACM MobiSys 2022 Poster]** HyunA Seo, **Juheon Yi**, and Youngki Lee, “LIVE: Life-Immersive Virtual Environment with Physical Interaction-aware Adaptive Blending.”
- **[ACM AIChallengeIoT 2021 (collocated with SenSys 2021)] Juheon Yi**, Chulhong Min, and Fahim Kawsar, “Vision Paper: Towards Software-Defined Video Analytics with Cross-Camera Collaboration.”
- **[ACM Students in MobiSys 2021] Juheon Yi**, "Mobile-Cloud Cooperative Deep Learning Platform for Mixed Reality Applications." **** Best Paper Award ****

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)
- ACM MobiSys 2023 (Artifact Evaluation Committee)

External Reviewer
- Journal: IEEE TMC, IEEE Systems Journal, ACM IMWUT

- Conference: BMVC 2024, ACM UIST 2024, IEEE VR 2024, ACM CSCW 2024, CogSci 2024, ISMAR 2023, IEEE VR 2023, HAI 2022, IEEE WCNC 2020, 2019, IEEE DySPAN 2018

Other Organizing Committee
- IEEE/ACM COMSNETS 2025 (publicity co-chair)

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*