Jin Heo

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Education

Doctor of Philosophy |Aug 2019 - Present | Georgia Institute of Technology, Atlanta, GA, US

- Major: Computer Science
- Related coursework: Advanced Computer Vision, Advanced Operating Systems, System for Machine Learning, Distributed Computing, Video Game Design, Intro to Graduate Algorithms
- Overall GPA: 4.0/4.0

Bachelor of Science |Mar 2016 - Aug 2018 | Ajou University, Suwon, South Korea

- Major: Computer Engineering
- Related coursework: Computer Program Design, Data Structure, Algorithm, Database, Operating Systems, System Programming, Computer Communication, Computer Networks, Digital Circuits, Computer Architecture, Design Analysis and Software Design, Computer Vision, Artificial Intelligence, Software Capstone Design
- Overall GPA 4.4/4.5, Valedictorian (1/213)

Associate of Science | Mar 2015 - Feb 2016 | National Institute for Lifelong Education, Seoul, South Korea

- Major: Information Processing
- Related coursework: Internet Programming, Introduction to Multimedia, Introduction to Computing, Internet Application, PC Application

Attended for Freshmen | Mar 2011 - Dec 2014 | ChungKang College of Cultural Industries, Icheon, South Korea

- Major: Computer Games and Programming Skills
- Related coursework: Fundamental Computer Programming, Introduction to Game Graphics, Creative Ideas and Planning, Basic Game Design, Introduction to Contents Programming, Object Oriented Programming, Windows Programming

Experience

Undergraduate Research Fellow | Parallel Architectures and Systems Lab, UC Irvine, CA, US | July 2017 - Jan 2018

- Developed an FPGA framework that optimizes computer vision algorithms by splitting and re-organizing the dataflow graph on Intel Arria 10 FPGA via Intel HLS tools.
- Implemented and optimized modules of computer vision algorithms by using OpenCV and OpenVX.
- This work was published on the 26th FCCM, 2018.

Undergraduate Research Assistant | Ajou Computer Communication Lab, Ajou University, Suwon, Korea | Mar 2017 - Jul 2017

- Investigated network protocols such as HIP and Mobile IPv6 for developing a continuous communication system for mobile devices.
- Proposed a network protocol stack for a new communication platform for mobile devices.

UNDERGRADUATE RESEARCH FELLOW | CSIRO, BRISBANE, AUSTRALIA | DEC 2016 - FEB 2017

- Developed a radio communication system for wireless sensor networks.
- The system was implemented on the TI SensorTag device and Contiki OS, a tiny operating system for sensor devices.
- Applied a network flooding algorithm, Glossy, and optimized Contiki kernels for time synchronization for the Glossy algorithm.

IT PROFESSIONAL | ARMED FORCE BUSAN HOSPITAL, BUSAN, KOREA | NOV 2011 - AUG 2013

- Implemented a real-time PC management system and maintain backend servers on the military intranet
- Maintained the medical system servers and hospital websites

Publications & Presentations

- Oral Presentation with Demo, **Jin Heo**, Jeffrey Zhang, Sarita Adve, Ada Gavrilovska, "Towards End-to-End Benchmarking For Multi-Party AR", The 2020 Applications Driving Architectures (ADA) Center Symposium, 2020.11
- Oral Presentation, **Jin Heo**, Ada Gavrilovska, "AR streaming from the edge", The 2020 Applications Driving Architectures (ADA) Center Liaison Meetings, 2020.5
- Taheri, S., **Heo, J.**, Behnam, P., Chen, J., Veidenbaum, A. and Nicolau, A., 2018, April. Acceleration framework for fpga implementation of openvx graph pipelines. In 2018 IEEE 26th Annual International Symposium on Field-Programmable Custom Computing Machines (FCCM) (pp. 227-227). IEEE.
- **Jin Heo**, WonKyo Choi, JaeMan Son, HunChul Park, DaeGyun Yoon, "A Study on Performance Improvement with Minio File Server on Flask Web Server", Korea Institute Of Communication Sciences, Proceedings of Symposium of the Korean Institute of communications and Information Sciences, 2018.6, 914-915
- Oral Presentation, **Jin Heo**, Taeho Kim, Hyunjun Kim, Sajjad Taheri, Alexander Veidenbaum, and Alexandru Nicolau, Title: Accelerating Neural Network using FPGAs, The 2017 International Summer Undergraduate Research Fellowship (ISURF) Symposium at the University of California, Irvine

Technical Skills

- Programming Language: Proficient in C/C++, Java, Python, and Shell Script
- Software Platforms and Tools: OpenGL, OpenCV, OpenVX, Pytorch, Tensorflow, Docker, gRPC, ZMQ, GStreamer, RaftLib, FFmpeg, Makefile, CMake, Meson
- Project Management and Documentation: Git, Agile Method, Test-Driven Development, Doxygen, Markdown