MINWOO (JOSH) KANG

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EDUCATION

University of California, Berkeley

PhD in Electrical Engineering and Computer Science (EECS)

Aug 2020 – Present Berkeley, CA

Williams College

BA in Computer Science and Physics

Sep 2014 – Jun 2020 Williamstown, MA

- Magna Cum Laude; Phi Beta Kappa (top 5% of class); Sigma Xi
- Computer Science Class of '60 Scholar and Goldberg Prize

EXPERIENCE

Williams College Archiecture Group

Research Assistant | Thesis Student

Jun 2019 – Jun 2020 Williamstown, MA

- Developed RISC-V SoC on FPGAs that can dynamically customize its collection of on-chip accelerators.
- Implemented several Rocket Coprocessor (RoCC) accelerators
- Recieved Highest Honors in Computer Science

Williams Materials Physics Lab

Research Assistant

Jan 2018 – Jun 2020 Williasmtown, MA

- Research on solvent phase separation phenomenon in soft silicone gels under adhesive contacts
- Developing image processing code in MATLAB to directly measure fluid separation volume from confocal microscopy images
- PDMS gel synthesis; CAD-designed and built a microscope-compatible bi-axial stretcher
- Presented posters at 2018 Soft Days at UMass Amherst and 2018 Williams Summer Science Research
- In preparation of co-first author publication manuscript

UNCSB-Joint Security Area

Command Support Squad Leader | Sergeant

Sep 2015 – Jun 2017 Panmunjom, Republic of Korea

- Military service with the Republic of Korea Army at UNCSB-JSA, a ROK-US combined unit securing the inter-governmental conference area on the Korean border
- Led command support squad and participated in high-level visitor escort operations, KOR-ENG translations and field recon patrols as a radiotelephone operator

CLASS/IND PROJECTS

Bloom or Bust

- CUDA and RISC-V hardware accelerator implementation of Bloom filter operations
- Demonstrated up to 10× speedups

WAVE

- WAVE is an emulator for ARM-like assembly written in x86_64
- Ranked 1st in class code optimization contest

KCICK

- KCICK, the KCICK Consulting Interview CracKer, is a F#-based DSL that will answer 'Fermi questions' notoriously asked during management consulting job interviews

TEACHING @ WILLIAMS

Spring 2020
algorithm design and analysis

Fall 2019
computer organization

Spring 2019
algorithm design and analysis
vibrations, waves and optics

Fall 2018
electricity and magnetism

Spring 2018
foundations of modern physics

SELECTED COURSEWORK

parallel processing
distributed systems
computer organization
programming languages
graph theory
condensed matter physics
applications of quantum mechanics

SKILLS

Programming Languages
C/C++, CUDA, Java, x86 & RISC-V assembly

Hardware Development
Chisel HDL, Verilog, Viavdo Design Suite