Graham Gobieski

(216)-408-4610
gobieski[at]cmu.edu
gobieski.com

5000 Forbes Avenue
Gates-Hillman Center
Pittsburgh, Pennsylvania 15213

Education

Carnegie Mellon University — 2017 - Present
PhD Candidate Apple Scholar in AI/ML
Advised by Prof. Nathan Beckmann, Prof. Brandon Lucia

Columbia University — 2013 - 2017
BA Computer Science, Minor Chemistry; Rabi Scholar

Research

Energy-efficient architectures for Low Power Embedded Systems

Prof. Nathan Beckmann, Prof. Brandon Lucia
Carnegie Mellon University
2017 - Present

- Developed the vector-dataflow execution model and implemented MANIC, an energy-efficient vector-dataflow co-processor
- Took full-stack approach: custom compiler, LibC, functional simulator, complete RTL for MANIC and scalar core
- Paper accepted to MICRO 52

Neural Network Inference on Intermittent Embedded Systems

- Built SONIC & TAILS – systems that leverage the regular structure of linear algebra operations to accelerate inference
- Optimized network structure for embedded devices and built automated testing framework with MSP430 and Powercast harvester
- Papers accepted to ASPLOS'19 and SysML'18

"Shuffler: Fast and Deployable Continuous Code Re-randomization"

David Williams-King, Prof. Junfeng Yang
Columbia University
2015-2016

- Helped create system to defend against code-reuse attacks
- Paper accepted to OSDI 2016

"Clickable poly (ionic liquids): A materials platform for transfection"

Prof. Luis Campos
Columbia University
2013-2016

- Studied novel class of polymers with applications to fuel cells
- Paper appeared in Angewandte Chemie 128

Professional Experience

MongoDB Software Engineer Intern — 2016

- Assisted in building proxy service that translated/compiled SQL queries into the MongoDB query language

Fellowships/Awards

Apple Scholar in AI/ML — July, 2020

- Awarded prestigious fellowship from Apple for work on on-device ML
- Fellowship is awarded to twelve PhD students globally

Technical Skills

- Programming languages: C, C++, System Verilog, Python
- Hardware synthesis utilizing System Verilog and Cadence CAD tools
- Embedded systems including those based on MSP430, RISCV, ARM