Matthew Vilim

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Redwood City, CA 94063

Education

Stanford University
PhD, Electrical Eng.
Fall 2016 – Present

– Languages, compilers, and architectures for FPGAs and reconfigurable accelerators
– Advised by Prof. Kunle Olukotun

Stanford University
MS, Electrical Eng.
GPA **3.58**
Fall 2016 – Spring 2018

Concentration in semiconductor devices

UIUC
BS, Computer Eng.
GPA **3.95**
Fall 2012 – Winter 2015

– Highest Honors, University Honors (top 3% of College of Engineering)
– O. Thomas and Martha S. Purl Scholarship, Frank C. Mock Scholarship, Grainger Freshman Scholarship, ECE Outstanding Freshman Scholarship
– Napier Award, Edward C. Jordan Award

Work

NVIDIA
GPU Verification Intern
Spring and Summer 2016
Santa Clara, CA

– Contributed to features and performance of Volta randoms program generator
– Created ISA coverage tool to measure the proportion of instructions covered
– Worked with GPU architecture team to test and verify Volta memory model

NVIDIA
Systems Software Intern
Summers 2014, 2015
Santa Clara, CA

– Developer on macOS graphics drivers team
– Worked across all levels of the driver stack including OpenGL and display driver
– Ported NVIDIA G-SYNC from Windows drivers to macOS drivers

Argonne (ANL)
Research Intern
Summers 2012, 2013
Lemont, IL

– Developer on GREET, an energy and emissions model of the entire US energy system
– Worked to port a legacy Excel-based model as a C# .NET rewrite

Entrepreneur
Computer service business
2008–2012

– Sole proprietor of business with 180 customers, logging over 1500 hours
– Performed services such as computer setup and maintenance, network installation

Skills

Software

– Experience with systems software, embedded systems, firmware, operating systems
– Familiar with common data structures and design patterns
– Proficient with C, C++
– Experience with assembly, Python and various scripting languages

Hardware

– Experience with digital logic design, RTL, computer architecture
– Experience with Verilog, ASIC tool flow, FPGA synthesis
– Familiar with simple PCB design

Publications

Prof. Kunle Olukotun
Stanford University
Winter 2017 – Present

– Y. Zhang, A. Rucker, **M. Vilim**, *et al.* "Scalable Interconnects for Reconfigurable Spatial Architectures." *ISCA, 2019.* (Submitted)

Prof. Rakesh Kumar
UIUC
Fall 2015

– Developed technique to increase Bitcoin mining profits
– **M. Vilim**, H. Duwe, R. Kumar, "Approximate Bitcoin Mining." *DAC, 2016.*