Matthew Vilim

mvilim@stanford.edu
github.com/matthewvilim
(331) 643-9982
488 Winslow St, Apt 416
Redwood City, CA 94063

Education

Stanford University
PhD, Electrical Eng.
Fall 2016 – Present

- Languages, compilers, and architectures for FPGAs and reconfigurable accelerators
- Advised by Kunle Olukotun

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

GPA **3.58**

GPA **3.95**

UIUC
BS, Computer Eng.
Fall 2012 – Winter 2015

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

Work Experience

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
- Familiar with Verilog, ASIC tool flow, FPGA synthesis
- Experience 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.*