Matthew Vilim

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

Education

Stanford University
PhD, Electrical Eng.
MS, Electrical Eng.
GPA **3.58**/4.30
Fall 2016 – Present

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

UIUC
BS, Computer Eng.
GPA **3.95**/4.00
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: firmware, drivers, embedded systems, operating systems
- Familiar with common data structures and design patterns
- Proficient with C, C++ and experience with assembler
- Competent with Python and various scripting languages

Hardware

- Experience with digital logic design, RTL (Verilog), computer architecture
- Experience with ASIC design flow and 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.*
- **M. Vilim**, A. Rucker, Y. Zhang, *et al.* "Gorgon: Accelerating Machine Learning from Relational Data." *ISCA, 2020. (in submission)*

Prof. Rakesh Kumar
UIUC
Fall 2015

- **M. Vilim**, H. Duwe, R. Kumar, "Approximate Bitcoin Mining." *DAC, 2016.*