Timothy Trippel

trippel@umich.edu | https://timothytrippel.com

EDUCATION

UNIVERSITY OF MICHIGAN

PhD in Computer Science & Engineering
Expected May 2020 | Ann Arbor, MI
School of Electrical Engineering and Computer Science
Conc. in Computer Security

MS in Computer Science & Engineering
December 2016 | Ann Arbor, MI
School of Electrical Engineering and Computer Science
Cum. GPA: 3.85 / 4.0

PURDUE UNIVERSITY

BS in Computer Engineering
May 2015 | West Lafayette, IN
School of Electrical and Computer Engineering
Cum. GPA: 3.72 / 4.0

LINKS

Github:// **timtrippel**
LinkedIn:// **Timothy Trippel**

COURSEWORK

GRADUATE

Artificial Intelligence
Machine Learning
Computer & Network Security
Advanced Networking
Microarchitecture
Advanced Operating Systems

UNDERGRADUATE

Computer & Network Security
Probability & Statistics
Signals and Systems
Data Structures and Algorithms
Operating Systems
Microprocessor System Design*
Digital Systems Design*
*Served as Teaching Assistant

SKILLS

PROGRAMMING

Python • C/C++ • C# • Matlab
Java • JavaScript • Verilog • Bash
Assembly • HTML • CSS

PLATFORMS & SOFTWARE

Linux • macOS • Windows
Visual Studio • Eclipse • Git

WORK EXPERIENCE

MICROSOFT | Software Engineering Intern

May 2015 – Aug 2015 | Bellevue, WA | Windows Devices Group
Worked on the Windows IoT Core team to design and develop point-of-sale (PoS) device emulators for Visual Studio and Windows 10. Designed both UX and back-end for PoS device emulators primarily in XAML, C#, and C++.

MICROSOFT | Software Engineering Intern

May 2014 – Aug 2014 | Redmond, WA | Operating Systems Group
Worked on the Membership Assistance and Connections team to design and develop a customer support feature, and its supporting back-end. Developed web UX and back-end using ASP.NET MVC5, SignalR, Twitter Bootstrap, jQuery, Jasmine.js, and Windows Azure services.

GE HEALTHCARE | EID Software Engineering Intern

May 2013 – Aug 2013 | Barrington, IL
Designed and developed a software development life-cycle reporting tool, for use by agile scrum teams, to automate the production of Design History Files required to meet FDA healthcare software regulations. Developed a Python back-end to parse Agile process artifacts, test requirements, and results, that were dumped into a custom internal facing web UX.

RESEARCH

UNIVERSITY OF MICHIGAN | Graduate Research Assistant

September 2015 – Present | Ann Arbor, MI
Working with Prof. Kang Shin on anomaly detection and security in cyber-physical systems. Previously developed a novel side-channel attack against MEMS accelerometers with Prof. Kevin Fu. ***Publication in IEEE Euro S&P 2017. Portions of work are patent pending.***

PURDUE UNIVERSITY | Undergraduate Researcher

Jan 2014 – April 2015 | West Lafayette, IN
Worked with Prof. Cheng-Kok Koh to develop new VLSI algorithms, used by CAD tools, to place-and-route microelectronic circuit components inside ICs.

PROJECTS

2017 Algorithmic Financial Modelling and Company Valuations*
2017 LightSM: a Low-Cost Cryptographic Security Module based on Intel SGX
2016 Spoofing MEMS Sensors with Intentional Acoustic Interference
2016 Subverting the Linux RNG via the Xen Hypervisor using LibVMI
2015 Split QUIC: an Alternative to Split TLS
2015 Stratus: Wireless WiFi Flash Drive
2014 Custom MIPS Dual-Core Cache Coherent Pipelined Processor
*(In Progress)

AWARDS

2017 National Science Foundation (NSF) Graduate Research Fellowship
2014 Top 10 and Twilio Challenge Award at BoilerMake Hackathon
2012 Donald C. and Marion E. Currier Undergraduate Scholarship (Full Tuition)
2011 Indiana's Top Young Scientist ($10,000 Award)
2011 2nd Place in Cellular Biology at Intel International Science and Engineering Fair

ORGANIZATIONS

2017 Michigan Data Science Team
2014 Eta Kappa Nu Electrical and Computer Engineering Society Beta Chapter