Luke Hsiao

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Education

Ph.D. in Electrical Engineering, Stanford University — 2015 – Expected 2021
M.S. in Electrical Engineering, Stanford University (GPA: 3.96) — 2015 – 2017
B.S. in Computer Engineering, Brigham Young University (GPA: 4.0) — 2010 – 2015
- Graduated Summa Cum Laude

Skills

Languages Assembly, Bash, C, HTML/CSS, Java, LaTeX, Make, Python, VHDL
Systems/Tools Git, Linux, Perforce, Xilinx ISE Design Suite

Research Experience

PhD Student Researcher — Sept 2015 – Present
Stanford Univerisity, *Advisor: Prof. Phil Levis and Prof. Mark Horowitz* — Stanford, CA
- Area: Design Productivity, Embedded Systems, Networking, Security
- Researching ML systems for knowledge base construction from richly formatted data

Undergraduate Research Assistant — Apr 2014 – June 2015
Brigham Young University, *Advisor: Prof. Mike Wirthlin* — Provo, UT
- Area: Embedded Systems, FPGA Reliability, Fault Injection
- Assisted in validation and development of Xilinx V5QV fault injection infrastructure
- Designed and optimized VHDL components for use in reliability experiments
- Developed standalone JTAG fault injection system for radiation tests using C/C++

Industry Experience

Software Engineering Intern — June 2017 – Sept 2017
NVIDIA — Santa Clara, CA
- Designed and implemented APIs and tools for system-level Windows drivers in C.
- Contributed to and implemented secure code requirements for kernel space code.

Software Engineering Intern — Apr 2015 – June 2015
Novi Security — Orem, UT
- Prototyped and evaluated embedded software architecture to analyze testability
- Established infrastructure for continuous integration and TDD to improve productivity

Publications

Workshop, Symposium, and Short Papers

[W1] N. A. Harward, M. R. Gardiner, **L. W. Hsiao**, M. J. Wirthlin, "Estimating Soft Processor Soft Error Sensitivity through Fault Injection," in *Field-Programmable Custom Computing Machines (FCCM), 2015 IEEE 23rd Annual International Symposium on*, IEEE, 2015, pp. 143–150. [Online]. Available: http://ieeexplore.ieee.org/xpl/articleDetails.jsp?arnumber=7160058.

[W2] N. A. Harward, M. R. Gardiner, **L. W. Hsiao**, M. J. Wirthlin, "A Fault Injection System for Measuring Soft Processor Design Sensitivity on Virtex-5 FPGAs," in *FPGAs and Parallel Architectures for Aerospace Applications*. Springer International Publishing, 2014, pp. 61–74. [Online]. Available: `https://link.springer.com/chapter/10.1007%2F978-3-319-14352-1_5`.

Preprints

[P1] S. Wu, **L. Hsiao**, X. Cheng, B. Hancock, T. Rekatsinas, P. Levis, C. Ré, "Fonduer: Knowledge base construction from richly formatted data," *arXiv preprint arXiv:1703.05028*, 2017. [Online]. Available: `https://arxiv.org/abs/1703.05028`.

Software

[S1] K. Miller and **L. W. Hsiao**, "TCPTuner: Congestion Control Your Way," p. 6, May 2016. arXiv: `1605.01987`. [Online]. Available: `http://arxiv.org/abs/1605.01987`.

Teaching Experience

- **Program Analysis and Optimizations** (CS 243), Graduate TA — W2016
- **Data Structures and Algorithms** (CS 235), Undergraduate TA — W2014

Stanford Graduate Coursework

- **Computer Networking** (CS 144), P. Levis and N. McKeown — F2015
- **Program Analysis and Optimizations** (CS 243), M. Lam — W2016
- **Network Application Studio** (CS 344G), K. Winstein — W2016
- **Computer Systems Architecture** (EE 282), H. Litz and C. Delimitrou — Sp2016
- **Computer and Network Security** (CS 155), D. Boneh and J. Mitchell — Sp2016
- **Linear Dynamical Systems** (EE 263), A. Momeni — Su2016
- **Advanced Multi-Core Systems** (CS 316), C. Kozyrakis — F2016
- **Embedded Systems Workshop** (CS 241), P. Levis — F2016
- **Introduction to Cryptography** (CS 255), D. Boneh — W2017
- **Database System Principles** (CS 245), P. Bailis — W2017
- **Advanced Topics in Networking** (CS 244), K. Winstein and S. Katti — Sp2017
- **Parallel Processors Beyond Multicore Processing** (EE 382A), A. Blas — Sp2017
- **Machine Learning** (CS 229), A. Ng and D. Boneh — F2017