

# Luke Hsiao

PH.D. CANDIDATE · SYSTEMS SOFTWARE & NETWORKING

Palo Alto, California, USA · No visa sponsorship required to work in the US

☎ 801-900-5928 | ✉ lwhsiao@stanford.edu | 🏠 www.lukehsiao.com | 📷 lukehsiao | 🌐 lukehsiao | 🎓 Luke Hsiao

## Education

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- 2015—2022 **Ph.D. in Electrical Engineering**, Stanford University Stanford, CA  
2015—2017 **M.S. in Electrical Engineering**, Stanford University · GPA: 3.96 Stanford, CA  
2010—2015 **B.S. in Computer Engineering**, Brigham Young University · *Summa Cum Laude*, GPA: 4.0 Provo, UT

## Skills

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**Programming** Python, C,  $\LaTeX$ , C++, Make, Bash, Rust, x86 Assembly  
**Systems/Tools** Vim, Git, Linux, Perforce, AWS, GCE, Jenkins, Travis-CI, Hugo, Zola, Jekyll

## Industry Experience

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- Software Engineering Intern** Santa Clara, CA  
**NVIDIA** 2017-06—2017-09
  - Designed and implemented APIs and tools for system-level Windows drivers in C.
  - Contributed to and implemented security requirements for kernel-space code.
- Software Engineering Intern** Orem, UT  
**NOVI SECURITY** 2015-04—2015-06
  - Prototyped and evaluated embedded software architecture to analyze testability.
  - Established infrastructure for continuous integration and test-driven development (TDD) to improve productivity.

## Research Experience

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- Ph.D. Research Assistant** Stanford, CA  
**STANFORD UNIVERSITY, Advisor: Phil Levis and Mark Horowitz** 2015-09—Present
  - Area: Systems, Networking, Design Productivity
  - Interested in systems software, networking, and security research.
  - Past: Building knowledge bases from richly formatted data using state-of-the-art weak supervision techniques.
- Undergraduate Research Assistant** Provo, UT  
**BRIGHAM YOUNG UNIVERSITY, Advisor: Mike Wirthlin** 2014-04—2015-06
  - 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 FPGA reliability experiments.
  - Developed standalone JTAG fault injection system for radiation testing using C/C++.

## Teaching Experience

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- W2019 **Graduate CA**, Introduction to Computer Networking (CS 144), Stanford University Stanford, CA  
W2016 **Graduate Grader**, Program Analysis and Optimizations (CS 243), Stanford University Stanford, CA  
W2014 **Undergraduate TA**, Data Structures and Algorithms (CS 235), Brigham Young University Provo, UT

## Stanford Graduate Coursework

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- F2018 **Topics in Computer and Network Security (CS 356)**, Z. Durumeric
- F2017 **Machine Learning (CS 229)**, A. Ng and D. Boneh
- Sp2017 **Parallel Processors Beyond Multicore Processing (EE 382A)**, A. Blas
- Sp2017 **Advanced Topics in Networking (CS 244)**, K. Winstein and S. Katti
- W2017 **Database System Principles (CS 245)**, P. Bailis
- W2017 **Introduction to Cryptography (CS 255)**, D. Boneh
- F2016 **Embedded Systems Workshop (CS 241)**, P. Levis
- F2016 **Advanced Multi-Core Systems (CS 316)**, C. Kozyrakis
- Su2016 **Linear Dynamical Systems (EE 263)**, A. Momeni
- Sp2016 **Computer and Network Security (CS 155)**, D. Boneh and J. Mitchell
- Sp2016 **Computer Systems Architecture (EE 282)**, H. Litz and C. Delimitrou
- W2016 **Network Application Studio (CS 344G)**, K. Winstein
- W2016 **Program Analysis and Optimizations (CS 243)**, M. Lam
- F2015 **Introduction to Computer Networking (CS 144)**, P. Levis and N. McKeown

## Publications

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### PEER-REVIEWED

- 2018 **Fonduer: Knowledge Base Construction from Richly Formatted Data** SIGMOD  
S. Wu, **L. Hsiao**, X. Cheng, B. Hancock, T. Rekatsinas, P. Levis, C. Ré  
[sing.stanford.edu/site/publications/fonduer-sigmod18.pdf](https://sing.stanford.edu/site/publications/fonduer-sigmod18.pdf) · [github.com/HazyResearch/fonduer](https://github.com/HazyResearch/fonduer)
- 2018 **Smart Contracts for Machine-to-Machine Communication: Possibilities and Limitations** IOT&IS  
Y. Hanada, **L. Hsiao**, P. Levis  
[arxiv.org/abs/1806.00555](https://arxiv.org/abs/1806.00555)
- 2015 **Estimating Soft Processor Soft Error Sensitivity through Fault Injection** FCCM  
N. Harward, M. Gardiner, **L. Hsiao**, M. Wirthlin  
[ieeexplore.ieee.org/xpl/articleDetails.jsp?arnumber=7160058](https://ieeexplore.ieee.org/xpl/articleDetails.jsp?arnumber=7160058)
- 2014 **A Fault Injection System for Measuring Soft Processor Design Sensitivity on Virtex-5 FPGAs** FASA  
N. Harward, M. Gardiner, **L. Hsiao**, M. Wirthlin  
[link.springer.com/chapter/10.1007%2F978-3-319-14352-1\\_5](https://link.springer.com/chapter/10.1007%2F978-3-319-14352-1_5)

### PRE-PRINTS

- 2019 **The Price of Free Illegal Live Streaming Services** arXiv  
H. Ayers, **L. Hsiao**  
[arxiv.org/abs/1901.00579](https://arxiv.org/abs/1901.00579)
- 2016 **TCPTuner: Congestion Control Your Way** arXiv  
K. Miller, **L. Hsiao**  
[arxiv.org/abs/1605.01987](https://arxiv.org/abs/1605.01987) · [github.com/Gasparila/TCPTuner](https://github.com/Gasparila/TCPTuner)