Scott P. Lerner

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EDUCATION ◇ **B.S., Electrical Engineering**, GPA: 3.5, (June 2014).
Drexel University, Philadelphia, PA.

◇ **B.S., Computer Engineering**, GPA: 3.5, (June 2014).
Drexel University, Philadelphia, PA.

PROFESSIONAL ◇ **Undergraduate Research Assistant**, (January 2012 – current)
EXPERIENCE
VLSI Laboratory, Department of Electrical and Computer Engineering
Drexel University, Philadelphia, PA, USA

- Programmed recursive optimization algorithms (500 lines C++) for buffer tree traversals
- Implemented an advanced algorithm for clock buffer sizing (700 lines C++)
- Automated verification testing for CPU event traces
- Custom VLSI Design, ASIC Design I/II, Network-on-Chip, Computer Architecture courses
  - Cadence: Virtuoso, Spectre
  - Synopsys: 1) DC for systhesis, 2) ICC for physical design floorplanning, placement, routing, CTS,
  - 3) Primetime for Static Timing Analysis 4) HSPICE for simulation
  - BookSim, HNoC for Network-on-Chip simulation
- Senior Design Project on Wireless Interconnect Design for 2D and 3D ICs
  - NoC simulation, HFSS modeling, RF and Antenna modeling

◇ **Co-op Technical Senior**, (April 2013 – September 2013)
Lockheed Martin
Cherry Hill, NJ, USA

- Optimized software defined radios for spectrum denial capabilities
- Formulated programs to allow for large data sets to be analyzed quickly
- Obtained and mained a Secret level security clearance

◇ **Software Developer**, (January 2012 – September 2012)
Software Support-PMW
Sewell, NJ, USA

- Designed five iPhone/iPad applications targeted for commercial sales
- Implemented a point-of-sale system on the iOS platform
- Maintained backend database communication to apache server

◇ **DRAM Product Engineer**, (March 2011 – September 2011)
Micron Technologies Inc.
Boise, ID, USA

- Performed functional testing and verification on packaged and bare memory die
- Diagnosed part failures for physical design and signal integrity issues
- Worked with a team to brainstorm and apply innovative fixes to new products

SELECTED PROJECTS

◇ **Leap Motion-Controlled Electric Wheelchair, Philly Codefest**
– Programmed communication circuitry to interface between XBee and DC Motors
– Designed Low Power motor control using Arduino
– Presented prototype to Venture Capitalists

◇ **Machine Learning Quadcopter, Lerner Research Labs**
– Using Machine Learning algorithms to identify surveillance targets
– Precise control of battery for extended mission flights
– Developed optimization equations related to hardware tradeoffs

◇ **Smart Light Bicycle, Lerner Research Labs**
– Added sensors to existing bicycle hardware for increased awareness
– Programmed ATMEGA328 to interpret sensor information
– Provide automatic safety to bicyclists through awareness to motorists

PRESENTATIONS

◇ Can Sitik, Scott Lerner, and Baris Taskin, *Low Swing Clocking Algorithm for 20nm FinFET Technology*, Poster presented at Upsilon Pi Epsilon Research Reception, February 2014.

◇ Can Sitik, Scott Lerner, and Baris Taskin, *Sub-45nm Interconnect Modeling*, Poster presented at Drexel IEEE Graduate Forum, February 2014.

◇ Scott Lerner, R. Welliver, B. Derveni, C. Schoenfield, I. Yilmaz , *MotionExplorer, A Leap Motion-Controlled Electric Wheelchair*, presented at Philly Codefest, February 2014.

◇ Can Sitik, Scott Lerner, and Baris Taskin, *Low-Power/High-Performance Clock Network Design for Microprocessors*, Poster presented at Upsilon Pi Epsilon Research Reception, February 2013.

SKILLS

◇ C, C++, Python, Tcl, Assembly (MIPS)

◇ Pthread, OpenMP, Objective-C

◇ Cadence – Virtuoso Suite, Spectre, PSpice
Synopsys – Design Compiler, IC Complier, HSpice

◇ VHDL, Verilog HDL

◇ gem5, Matlab, Arduino

◇ LaTeX, vi, Office Suites

◇ Unix, Linux, Windows, DOS

ACADEMIC HONORS AND AWARDS

◇ Dean's Choice Award at Philly Codefest for MotionExplorer 2014 held in Philadelphia, PA.

◇ NextFab Innovation Award at Philly Codefest for MotionExplorer 2014 held in Philadelphia, PA.

◇ Doctor Thomas Moore Endowed Grant 2014

◇ Dean's List, 2009, 2010, 2011, 2012, 2013.

REFERENCES

◇ **Dr. Baris Taskin**
Associate Professor, Department of Electrical and Computer Engineering
Drexel University, Philadelphia, PA
E-mail: taskin@coe.drexel.edu

◇ **Dr. Mark Hempstead**
Assistant Professor, Department of Electrical and Computer Engineering
Drexel University, Philadelphia, PA
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