

# WUXI LI

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Ph.D. Student ◊ Department of Electrical and Computer Engineering

## RESEARCH INTERESTS

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Design automation for VLSI

## EDUCATION

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### University of Texas at Austin, TX, US

*Jan. 2016 – Present*

Ph.D. student, Department of Electrical and Computer Engineering

Advisor: David Z. Pan

(GPA 4.0/4.0)

### University of Texas at Austin, TX, US

*Aug. 2013 – Dec. 2015*

M.S., Department of Electrical and Computer Engineering

(GPA 4.0/4.0)

### Shanghai Jiao Tong University, Shanghai, China

*Sep. 2009 – Jul. 2013*

B.S., Department of Microelectronics

(GPA 90.1/100)

## EXPERIENCE

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### Xilinx Inc., San Jose, CA

*May 2018 – Aug. 2018*

*Software Development Intern, Vivado Implementation Team*

### Cadence Design System, Austin, TX

*May 2016 – Dec. 2016*

*Software Development Intern, Clocking Team*

### Apple Inc., Austin, TX

*Jan. 2015 – Dec. 2015*

*Hardware Design Intern, SoC Clocking Team*

### Apple Inc., Cupertino, CA

*Sep. 2014 – Dec. 2014*

*Hardware Design Intern, SoC Methodology Team*

### ARM Inc., Austin, TX

*May 2013 – Aug. 2014*

*Hardware Design Intern, Memory Team*

### ECE Department, University of Texas at Austin, Austin, TX

*Aug. 2013 – Present*

*Graduate Student*

- Research Assistant
- Teaching Assistant of VLSI-II, Spring 2016 and 2017
- Simultaneous FPGA placement and packing
- FPGA placement parallelization
- Clock-aware FPGA placement
- Routability-driven FPGA placement

## PUBLICATIONS

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### Journal Articles

- [J5] **Wuxi Li**, David Z. Pan, “A New Paradigm for FPGA Placement without Explicit Packing”, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD), 2018. (**Accepted**)
- [J4] Meng Li, Bei Yu, Yibo Lin, Xiaoqing Xu, **Wuxi Li**, David Z. Pan, “A Practical Split Manufacturing Framework for Trojan Prevention via Simultaneous Wire Lifting and Cell Insertion”, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD), 2018. (**Accepted**)
- [J3] **Wuxi Li**, Yibo Lin, Meng Li, Shounak Dhar, David Z. Pan, “[UTPlaceF 2.0: A High-Performance Clock-Aware FPGA Placement Engine](#)”, ACM Transactions on Design Automation of Electronic Systems (TODAES), 2018. (**1st-Place Award of ISPD 2017 Contest**)

- [J2] **Wuxi Li**, Shounak Dhar, David Z. Pan, “[UTPlaceF: A Routability-Driven FPGA Placer with Physical and Congestion Aware Packing](#)”, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD), 2017.
- [J1] **Wuxi Li**, Hang Yuan, Wei Xu, Kunling Geng, Guoxing Wang, “[An Optimization Procedure for Coil Design in a Dual Band Wireless Power and Data Transmission System](#)”, ECS Transactions (ECST), 2013.

### Conference Papers

- [C5] Meng Li, Bei Yu, Yibo Lin, Xiaoqing Xu, **Wuxi Li**, David Z. Pan, “A Practical Split Manufacturing Framework for Trojan Prevention via Simultaneous Wire Lifting and Cell Insertion”, IEEE/ACM Asia and South Pacific Design Automation Conference (ASPDAC), 2018.
- [C4] **Wuxi Li**, Meng Li, Jiajun Wang, David Z. Pan, “[UTPlaceF 3.0: A Parallelization Framework for Modern FPGA Global Placement](#)”, IEEE/ACM International Conference on Computer-Aided Design (ICCAD), 2017. (**Invited Paper**)
- [C3] Wei Ye, Yibo Lin, Xiaoqing Xu, **Wuxi Li**, Yiwei Fu, Yongsheng Sun, Canhui Zhan, David Z. Pan, “[Placement Mitigation Techniques for Power Grid Electromigration](#)”, IEEE International Symposium on Low Power Electronics and Design (ISLPED), 2017.
- [C2] **Wuxi Li**, Shounak Dhar, David Z. Pan, “[UTPlaceF: A Routability-Driven FPGA Placer with Physical and Congestion Aware Packing](#)”, IEEE/ACM International Conference on Computer-Aided Design (ICCAD), 2016. (**Invited Paper, 1st-Place Award of ISPD 2016 Contest**)
- [C1] Wei Xu, Xiyang Li, **Wuxi Li**, Hang Yuan, Guoxing Wang, “[Live demonstration: An Optimization Software and a Design Case of a Novel Dual Band Wireless Power and Data Transmission System](#)”, IEEE International Symposium on Circuits and Systems (ISCAS), 2014.

### RELATED COURSES

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|  |                                |
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| • EE382M: VLSI I   | <i>Prof. Michael Orshansky</i> |
| • EE382N: Computer Architecture                              | <i>Prof. Aater Suleman</i>     |
| • EE382V: Optimization Issues in VLSI CAD                    | <i>Prof. David Pan</i>         |
| • EE382M: VLSI II  | <i>Prof. Jacob Abraham</i>     |
| • EE380L: Engineer Programming Languages                     | <i>Prof. Craig Chase</i>       |
| • EE382V: VLSI Physical Design Automation                    | <i>Prof. David Pan</i>         |
| • EE382N: High-Speed Computer Arithmetic                     | <i>Prof. Earl Swartzlander</i> |
| • EE382M: Verification of Digital Systems                    | <i>Dr. Jayanta Bhadra</i>      |
| • INF385M: Database Management                               | <i>Dr. Stan Gunn</i>           |
| • INF385T: Metadata Generation/Interface for Massive Dataset | <i>Prof. Unmil Karadkar</i>    |
| • EE380N: Optimization in Engineering Systems                | <i>Prof. Ross Baldick</i>      |
| • CS383C: Numerical Analysis: Linear Algebra                 | <i>Prof. George Biros</i>      |

### SKILLS

#### Programming Languages

C/C++, Perl, Python, Verilog

#### EDA Tools

Cadence Virtuoso, Synopsys Design Compiler, Synopsys IC Compiler, Synopsys PrimeTime

### AWARDS AND HONORS

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|---|--------|------|
| 3rd-Place Winner of Intern Showcase Presentation              | Xilinx | 2018 |
| 1st-Place Winner of Clock-Aware FPGA Placement Contest        | ISPD   | 2017 |
| 1st-Place Winner of Routability-Driven FPGA Placement Contest | ISPD   | 2016 |
| A. Richard Newton Young Student Fellow                        | DAC    | 2016 |

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|--|-------------------------------|------|
| Graduation with Honor, College Graduate Excellence Award of Shanghai | Shanghai Jiao Tong University | 2013 |
| Excellent Bachelor Dissertation Award (Top 39/3900+)                 | Shanghai Jiao Tong University | 2013 |
| Toshiba Electronics Scholarship                                      | Shanghai Jiao Tong University | 2012 |