Honghuang Lin

Design Verification Engineer, Texas Instruments, Dallas, TX

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Education

2011 - 2016 **PhD, Computer Engineering** - Texas A&M University, College Station, TX

Thesis: *Algorithms for Verification of Analog and Mixed-Signal Integrated Circuits*

2007 - 2011 **BS, Automation** - Tsinghua University, Beijing, China

Work Experience

2016 - Pres. **Design Verification Engineer**, Texas Instruments, Dallas, TX.

- Design verification lead
- Analog and mixed-signal (AMS) IC verification
- Machine learning based circuit modeling and analysis
- Machine learning based verification methodology research and development

2011 - 2016 **Graduate Research Assistant**, Dept. of Electrical & Computer Engineering, Texas A&M University, College Station, TX.

- Machine learning based AMS verification, modeling and testing
- Machine learning algorithm development
- Formal AMS verification

2014 & 2015 **Verification Intern**, Texas Instruments, Dallas, TX.

- Advanced verification and test flow development

2013 **Hardware Intern**, NVIDIA Corporation, Santa Clara, CA.

- Clustering based post-silicon failure pattern extraction

Teaching Experience

2013 & 2014 **Graduate Teaching Assistant**, Dept. of Electrical & Computer Engineering, Texas A&M University, College Station, TX.

- Instructing lab sessions for *ECEN454 Digital Integrated Circuit Design*

Research Interests

- AMS IC Modeling, optimization, verification and testing
- Machine learning algorithms and applications
- Computer aided design (CAD) algorithms

Professional Experience

- Reviewer for journals
  - IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD)
  - IEEE Transactions on Circuits and Systems I (TCAS-I)
  - IEEE Transactions on Circuits and Systems II (TCAS-II)
  - IEEE Transactions on Very Large Scale Integration Systems (TVLSI)
  - Transactions on Design Automation of Electronic Systems (TODAES)
  - Journal of Electronic Testing (JET)
- Reviewer for conferences
  - IEEE International NEWCAS Conference
  - International Joint Conference on Neural Networks

Awards

- **Best Paper Award**, Design and Verification Conference and Exhibition U.S., the 3rd place, 2017.
- **Best Paper Award**, Design and Verification Conference and Exhibition U.S., the 3rd place, 2016.
- **Honorable Mention**, Mathematical Contest in Modeling, 2010.
- **First Prize**, Beijing Undergraduate Mathematical Contest in Modeling, China, 2009.
- **Second Prize**, Beijing Undergraduate Mathematical Contest in Modeling, China, 2008.
- **First Prize**, National Olympiad in Informatics in Provinces, China, 2007.
- **First Prize**, Competition in Mathematics in Provinces, China, 2006.

Publications

- [DVCon'17] **Honghuang Lin**, Zhipeng Ye and Asad Khan, "Machine learning based PVT space coverage and worst case exploration in analog and mixed-signal design verification," in Proc. of Design and Verification Conference and Exhibition U.S., Feb. 2017 (**the 3rd place best paper award**).
- [DAC'16] **Honghuang Lin** and Peng Li, "Relevance vector and feature machine for statistical analog circuit characterization and built-in self-test optimization," n Proc. of IEEE/ACM Design Automation Conference, June 2016.
- [DVCon'16] Zhipeng Ye, **Honghuang Lin** and Asad Khan, "Functional coverage collection for analog circuits - enabling seamless collaboration between design and verification," in Proc. of Design and Verification Conference and Exhibition U.S., Feb. 2016 (**the 3rd place best paper award**).
- [TCAD'15] **Honghuang Lin** and Peng Li, Circuit performance classification with active learning guided sampling for support vector machines," in IEEE Trans. on Computer-Aided Design of Integrated Circuits and Systems, Vol. 34, No. 9, pp.1467-1480, Sep. 2015.
- [TechCon'15] **Honghuang Lin** and Peng Li, "Adaptive sampling for circuit performance classification with active learning guided support vector machines," Semiconductor Research Corporation TECHCON Conference, Sep. 2015.

- [DAC'14] **Honghuang Lin** and Peng Li, "Parallel hierarchical reachability analysis for analog verification," in Proc. of IEEE/ACM Design Automation Conference, pp. 1-6, Jun. 2014.
- [BioMedCom'13] Shaoda Yu, Peng Li, **Honghuang Lin**, Ehsan Rohani, Gwan Choi, Botang Shao and Qian Wang, "Support vector machine based detection of drowsiness using minimum EEG features," ASE/IEEE Intl. Conf. on Biomedical Computing, September 2013.
- [DAC'13] **Honghuang Lin**, Peng Li and Chris J. Myers, "Verification of digitally-intensive analog circuits via kernel ridge regression and hybrid reachability analysis," in Proc. of IEEE/ACM Design Automation Conf., pp. 1-6, May 2013.
- [FAC'13] **Honghuang Lin** and Peng Li, "Reachability analysis for AMS verification using hybrid support function and SMT-based method," Frontiers in Analog CAD (FAC) Workshop, Feb. 2013.
- [ICCAD'12] **Honghuang Lin** and Peng Li, "Classifying circuit performance using active-learning guided support vector machines," IEEE/ACM Conf. on Computer-Aided Design, pp. 187-194, Nov. 2012.

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