

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**," in 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, 2 pages, 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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