# Ke Xu

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The Hong Kong University of Science and Technology, Hong Kong

## EDUCATION

*B.E. in Electronic Science and Technology*, **Nanjing University**, China                2011 – 2015
- Ranking: **1/217**, Thesis: FPGA-based Design of FFT & FIR

## HONORS & AWARDS

*Best Paper Honorable Mention Award*, **ACM CHI Conference**                          2017, 2018
*Excellent Student of Nanjing University*, **Nanjing University**                          2015
*First Prize of Red Sun Scholarship*, (for **30** of **students** in **Nanjing University**)        2014
*Baosteel Scholarship,* (For **2 of Sophomores** in **Nanjing University**)              2013
*National Scholarship*, **Ministry of Education of the People's Republic of China**      2012

## RESEARCH EXPERIENCE

*Ph.D. Candidate*, **HKUST,** Hong Kong                                    Sept 2015 – Now
- Conducted the visual analysis of Hong Kong weather for smart HK project
- Designed the digital circuit part for a 10Gbps Phase Interpolated based half-rate CDR in 65nm CMOS
- Constructed a FPGA-based Bit Error Rate Tester (BERT) for the high-speed CDR testing

*Visiting Student*, **Tongji University**, Shanghai, China                        Feb 2017 – Sept 2017
- Designed ECGLens, a visualization tool for Arrhythmia Detection with large scale ECG data
- Developed EventThread, a visual analytics system for summarizing event sequence data

*Research Assistant*, **Nanjing University,** Nanjing, China                      Dec 2014 – Apr 2015
- Facilitated a wideband filter module and FFT-based frequency estimation module by *Vivado HLS*

*Summer Intern***, McGill University,** Montreal, Canada                      Jun 2014 – Sept 2014
- Provided a model to predict the screening-limited response of nanobiosensors
- Analyzed the reasons for some aspects of experimental results that were not well explained within the consistent theoretical framework

*Project Leader*, **Nanjing University**, Nanjing, China                        Jun 2013 – May 2014
- Lead the project "Microphone Array Acoustic Localization and Speech Enhancement", a National Innovation Training Program
- Created and arranged the work schedule for our project team

## PUBLICATIONS

[C3, J2] Ke Xu, Meng Xia, Xing Mu, Yun Wang, Nan Cao. **EnsembleLens: Ensemble-based Visual Exploration of Anomaly Detection Algorithms with Multidimensional Data.** IEEE Transactions on Visualization and Computer Graphics (VAST'18: Proceedings of the IEEE Visual Analytics Science and Technology), 2018.

[C2] Ke Xu, Shunan Guo, Nan Cao, David Gotz, Aiwen Xu, Huamin Qu, Zhenjie Yao, Yixin Chen. **ECGLens: Interactive Visual Exploration of Large Scale ECG Data for Arrhythmia Detection.** CHI'18: Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, 2018 *(Best Paper Honorable Mention)*. *[25.7% acceptance rate (666/2592)]*

[C1, J1] Shunan Guo, Ke Xu, Rongwen Zhao, David Gotz, Hongyuan Zha, Nan Cao. **EventThread: Visual Summarization and Stage Analysis of Event Sequence Data.** IEEE Transactions on Visualization and Computer Graphics (VAST'18: Proceedings of the IEEE Visual Analytics Science and Technology), 2018.

## TECHNICAL SKILLS

**Programming** Python, Matlab

**Web Development** JavaScript, HTML, Flask, jQuery

**SDKs & Toolkits** D3.js, WebGL, NumPy, scikit-learn

**Hardware** Verilog (FPGA), Cadence, Vivado_HLS, HSPICE