

# Zhaozhuo Xu

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## RESEARCH INTEREST

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*Distributed Systems, Cloud Computing, Wireless Sensor Network, Data Science.*

## EDUCATION

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- **University of California, Los Angeles** Los Angeles, CA  
*Computer Science, CSST Program, Supervisor: Professor Carlo Zaniolo, GPA: 4.00/4.00* Jul. 2016 – Sep. 2016
- **Wuhan University** Wuhan, China  
*Electronic Information Engineering, Candidate for Bachelor, GPA: 3.83/4.00* Sep. 2013 – Jul. 2017
  - In-major GPA: 3.91/4.00, Ranking: **Top 1%**, Member of the Elite Engineer Program

## EXPERIENCE

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- **VMware** Beijing, China  
*Software Engineer Intern, VMkernel I/O* Sep. 2016 – Present
  - **Graph Mining on Open Source Repositories:**  
Visualized the relationship between Github repositories in a **Force-directed Graph**.  
Improved horizontal scalability of force-directed graph algorithm using **Apache Spark** clusters.  
Quantified the impact from different open source communities to a repository on **GraphX**.
  - **Virtual IoT OS:**  
Virtualized Internet-of-Things operating systems on **vSphere**.
- **University of California, Los Angeles** Los Angeles, CA  
*Research Assistant, Scalable Analytics Institute, Guided by Professor Carlo Zaniolo* Jul. 2016 – Sep. 2016
  - **Diagnostic Tool for Categorical Outliers Detection on Apache Spark:**  
Refined information-theoretic unsupervised detection algorithm and applied it on categorical data.  
Developed entropy based clustering algorithms to extract informative data attributes.  
Improve the scalability and efficiency of state-of-art outlier detection algorithms.
- **Wuhan University** Wuhan, China  
*Research and Teaching Assistant, School of Electronic Information* Jan. 2014 – Jul. 2016
  - **Team Leader - “Intelligent Wireless Sensor Network” funded by Chinese Ministry of Education:**  
Developed Raspberry Pi based intelligent wireless sensor systems that learn and react to environmental changes.  
Refined Hilbert-Huang Transform to extract land deformation time series from noisy GPS signals.
  - **Research Assistant - Signal Processing Lab:**  
Developed Human-Object Interaction Model for Dangerous Human Event Detection.
  - **Teaching Assistant - Digital Signal Processing & Signals and Systems**

## PAPERS

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- **Zhaozhuo Xu**, Fangling Pu, Nengcheng Chen, Jianya Gong, “Detecting North-South Land Surface Deformation from Time Series obtained from Low Cost GPS Receivers”, Under review by: **IEEE Sensors Journal**.
- **Zhaozhuo Xu**, Fangling Pu, Xin Fang, Jing Fu, “Raspberry Pi Based Intelligent Wireless Sensor Node for Localized Torrential Rain Monitoring”, **Journal of Sensors** (IF 0.712), vol. 2016, 2016.
- **Zhaozhuo Xu**, Yuan Tian, Xinjue Hu, Fangling Pu, “Dangerous Human Event Understanding Using Human-Object Interaction Model”, Proceedings of “*IEEE International Conference on Signal Processing, Communication and Computing*” Oral Presentation, Ningbo, China, Sep 18-22, 2015.

## SELECTED PROJECTS

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- **Virtual IoT:** Virtual OS for security management on Internet-of-Things devices
- **Open Compass:** Deep learning based big data analysis on open source repositories.
- **Smart Earth:** Intelligent information system for environmental monitoring

## PATENTS

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### First Inventor

- A Meteorological Sensor Information Acquisition System Based On Raspberry Pi ID: ZL 201620138489.3
- Environmental Information Annotation System for Surveillance Images ID: ZL 201620405353.4

### Joint Inventor

- A Sensor System for Land Displacement Monitoring ID: ZL 201620134534.8
- A Sensor Information Acquisition Approach for Mobile Terminal ID: ZL 201510040174.5
- An Adaptive Accessing Approach for Heterogeneous Sensing Data ID: ZL 201510162915.7
- A Time Space Connected Land Surface Monitoring System ID: ZL 201510162915.7
- A Cross Network and Cross Device Network Element Manage System in EPON Network ID: ZL 201410333671.x

## HONORS

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### Scholarships

- Liu Daoyu Scholarship( **highest honor**, top 7 students at Wuhan University) 2016
- 50-50 Top University Abroad Study Scholarship, Wuhan University 2016
- Cross-Disciplinary Scholarship of Science and Technology, UCLA 2016
- **National Scholarship**( top 2% in undergraduate all over China ) 2014, 2015
- Yanggui Scholarship 2014
- First Class Scholarship, Wuhan University (top 6% in undergraduate in Wuhan University ) 2014, 2015, 2016

### Awards

- First Prize of Summer Intern, Wuhan University 2016
- First Place, Scientific Innovation Contest, Wuhan University 2016
- National Undergraduate Innovation Foundation(G201510486076), Chinese Ministry of Education 2015
- Undergraduate Research Foundation, Wuhan University 2014
- **Dean's List**, School of Electronic Information, Wuhan University 2014, 2015, 2016
- Excellent Student Cadres, Wuhan University 2014, 2015, 2016

## SKILLS

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- **Languages:** Scala, Python, Javascript, C++, Java, R, MATLAB, Verilog
- **Frameworks:** Spark, Hadoop, Django, TensorFlow, CUDA, Caffe, Angular
- **Circuits Design:** Advanced Design System, MultiSim, Altium Designer

## ADDITIONAL INFORMATION

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### English

- TOEFL: **107** Speaking 23
- GRE: Verbal Reasoning 153 Quantitative Reasoning 169 Analytic Writing 4

### Activities

- Member of Keynote Speech Team, Chinese Open Source Conference 2016
- Judges of Electronic Innovation Competition, School of Electronic Information, Wuhan University 2016
- President of Class 3 of Electronic Engineering, 50 Students 2015
- Academic Tutor for Freshmen, Wuhan University 2015
- Director of Academic Center, School of Electronic Information, Wuhan University 2015