

Dongyu Liu

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Education

Hong Kong University of Science and Technology

Aug 2014 – Current

- Ph.D. in Computer Science, Department of Computer Science and Engineering
- Supervisor: Prof. Huamin Qu ([VisLab](#))
- Research Interests: **data visualization** and **interactive machine learning** with focuses on **urban informatics** and **explainable AI**

Zhejiang University

Sep 2010 – Jun 2014

- B.Eng. in Computer Science, Chu Kochen Honors College (~400 top students out of ~6000 freshmen are selected)
- Supervisor: Prof. Jiajun Bu ([Eagle Lab](#)) and Prof. Hongxin Zhang ([CAD&CG Lab](#))
- Thesis: Design and Implementation of Sentiment Chatting Robot

Research / Work Experience

Lab Member, **HKUST-WeChat Joint Lab on AI Technology**, Hong Kong

Jun 2016 – Current

Research Intern, **Bosch Research North America**, CA, USA

Sep 2017 – Apr 2018

- Visual analytics to facilitate fast pattern discoveries for spatio-temporal data
- Programming: Python (flask), SQL, MongoDB, Typescript

Research Intern, **Microsoft Research Asia**, Beijing, China

Jul 2016 – Apr 2017

- Visual analytics for understanding CNN training process
- Programming: C++ (CaffePro framework), Typescript with Angular, MongoDB

System Engineer Intern, **WeChat Research Group, Tencent**, Shenzhen, China

Apr 2016 – Jun 2016

- Developed and deployed the first version of WeSeer, a visualization system to analyze WeChat rumor propagation patterns
- Programming: Javascript, Nodejs, Docker, MongoDB

Research Intern, **State Key Lab of CAD&CG, Zhejiang University**

Dec 2015 – Mar 2016

- Developed billboard location selection system, which was presented in China International Big Data Expo 2017
- Programming: C++, Javascript, Nodejs, MongoDB, Python

Research Intern, **Eagle Lab, Zhejiang University**, Hangzhou, China

May 2012 – Jun 2014

- Developed a sentiment chatting robot
- Programming: Java (JSP), Javascript

Research Intern, **State Key Lab of CAD&CG, Zhejiang University**, Hangzhou, China

Jun 2012 – Nov 2013

- Worked on image retrieval
- Programming: Python, Javascript

Software Engineer Intern, **Taotaosou**, Hangzhou, China

Jul 2013 – Oct 2013

- Built a mobile app to explore image database with hand-draw sketches
- Programming: C++, Python, OpenCV

Publications

- 2018 TPFlow: Progressive Partition and Multidimensional Pattern Extraction for Large-scale Spatio-temporal data analysis**
[Dongyu Liu](#), Panpan Xu, Liu Ren
TVCG **Best Paper Award** *IEEE Transactions on Visualization and Computer Graphics (Proc. IEEE VAST)*
- 2017 DeepTracker: Visualizing the Training Process of Convolutional Neural Networks**
[Dongyu Liu](#), Jin Kai, Yuxiao Guo, Yingcai Wu, Jie Bao, Weiwei Cui, Huamin Qu
TIST *ACM Transactions on Intelligent Systems and Technology*
- 2016 SmartAdP: Visual Analytics of Large-scale Taxi Trajectories for selecting billboard locations**
[Dongyu Liu](#), Di Weng, Yuhong Li, Yingcai Wu, Jie Bao, Yu Zheng, Huamin Qu
TVCG *IEEE Transactions on Visualization and Computer Graphics (Proc. IEEE VAST)*
- egoComp: A Node-link Based Technique for Visual Comparison of Ego-network**
[Dongyu Liu](#), Fangzhou Guo, Bowen Deng, Yingcai Wu, and Huamin Qu
IVI *Information Visualization. SAGE.*
- A Guided Tour of Literature Review: Facilitating Academic Paper Reading with Narrative Visualization**
Yun Wang, [Dongyu Liu](#), Huamin Qu, Qiong Luo and Xiaojuan Ma
VINCI *In Proc. Symposium on Visual Information Communication and Interaction. ACM.*
- 2015 PeakVizor: Visual Analytics of Peaks in Video Clickstreams from Massive Open Online Courses**
Qing Chen, Yuanzhe Chen, [Dongyu Liu](#), [Huamin Qu](#), Conglei Shi, Yingcai Wu
TVCG *IEEE Transactions on Visualization and Computer Graphics.*
- ParkVis: A Visual Analytic System for Anomaly Detection in DinoFun World**
Abishek Puri, [Dongyu Liu](#), [Shaoyu Chen](#), Siwei Fu, Tianyu Wang, Yeuk-Yin Chan, and Huamin Qu
VAST *In Proc. Conference on Visual Analytics Science and Technology, IEEE.*
- 2013 InSide: Interactive Sketching for Image Database Exploration**
Zhang, Hongxin, [Dongyu Liu](#), and [Changhan Wang](#)
CAD/Graphics *In Proc. IEEE International Conference on Computer-Aided Design and Computer Graphics.*

Awards

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|---|-------------|
| Hong Kong PhD Fellowship Scheme (~USD\$30,000 per year for 4 years) | 2014 - 2018 |
| Best Paper Award for IEEE VAST 2018 (only 1 paper among ~200 submissions) | 2018 |
| Microsoft Research Asia Stars of Tomorrow (Award of Excellence) | 2017 |
| Excellent Oral Presentation Award in ZJU International Doctoral Students Conference | 2017 |
| Honorable Mention Award for IEEE VAST Grand Challenge 2015 | 2015 |
| Merit Award in E-Learning at The Asia Pacific ICT Alliance 2015 with VisMOOC team | 2015 |
| Outstanding Student Award , Chu Kochen Honors College, Zhejiang University | 2014 |
| Honorable Mention Award for COMAP's International Mathematical Contest in Modeling (top 25% among ~4k teams from ~500 institutions around the world) | 2013 |
| Honorable Mention Award for CSIAM's China Undergraduate Mathematical Contest in Modeling (top 6% among ~22k teams in China) | 2012 |

First Prize in National Olympiad in Informatics in Provinces (It's a coding contest for high school students. **I got the highest score among 4408 participants in my province and top 5 among ~80k participants nationwide**)

2009

Selected Talks

Things You Need to Know About Doctoral Study , <i>ZJU 120 Anniv</i> , Hangzhou, China	May 2017
SmartAdP: VA for Optimal Billboard Locations Selections , <i>Vis</i> , Baltiore, USA	Oct 2016
How to be a Good Web Application Developer , <i>State Key of CAD&CG</i> , ZJU, China	Jan 2016
Visual Analytics of Massive Open Online Courses , <i>MSRA Symposium on Collaborative Research</i> , Beijing, China,	Nov 2015
egoComp: Visual Comparison of Ego-network , <i>EGAS in Vis</i> , Chicago, USA	Oct 2015

Services

Journal Reviewer	IEEE Transactions on Visualization and Computer Graphics (TVCG) Journal of Software, China	2016 - 2018 2015
Conference Reviewer	IEEE Information Visualization Conference (InfoVis) IEEE Conference on Visual Analytics Science and Technology (VAST) Eurographics/IEEE Conference on Visualization (EuroVis) IEEE Pacific Visualization Symposium (PacificVis) China Visualization Conference (ChinaVis) International Symposium on Graph Drawing and Network Visualization	2015 - 2018 2015 - 2018 2015 - 2016 2015 - 2016 2016 - 2018 2016
HKUST VisLab	Group Seminar Coordinator Group Website Manager	2018 2014-2018

Skills

Programming	Proficient in Javascript, Typescript, Python, C++
Tools	MySQL, MongoDB, Caffe, TensorFlow
Prototyping	Adobe Illustrator, Photoshop, and Effects, Movavi

Languages

Native	Mandarin
Fluent	English