

# Yuxiao ZHANG

Shanghai Jiaotong University  
zhangyuxiao@sjtu.edu.cn +86 15026628386  
<http://www.zhangyuxiao.me>

## EDUCATION

Shanghai Jiao Tong University (SJTU), Shanghai 2013 - 2017  
School of Electronics, Information and Electrical Engineering (SEIEE)  
Bachelor of Science in COMPUTER SCIENCE  
GPA : 3.87/4.0 or 91.45/100 (Major), 3.78/4.0 or 89.45/100 (Overall) Ranking : 13/137

## PUBLICATIONS

[1] Renxuan Wang, **Yuxiao Zhang**, Jiayi Liu, Xiaofeng Gao and Guihai Chen. "AngleCut: A Ring-Based Tree Partition Scheme for Metadata Management in Distributed Storage Systems", prepared for submission to SIGMOD 2017

## RESEARCH EXPERIENCES

**Smartphone Acoustic Source Localization based on TDoA** 2015.11 - present  
Supervised by Professor Hongzi Zhu, in Institute of Network and Service Computing, SJTU

- Designed a new acoustic source localization strategy using two microphones of a single smart phone based on TDoA.
- Designed a suitable signal pattern and a refined correlation algorithm with excellent noise resistency to calculate TDoA, and used spline interpolation to improve accuracy.
- Implemented the model based on Android OS smartphone and did massive evaluation works in various scene, trying to improve measuring distance.

**Metadata Management in Distributed Storage Systems** 2016.3 - present  
Supervised by Professor Xiaofeng Gao, in Advanced Network Lab, SJTU

- Designed an innovative approach for distributed metadata management named AngleCut, a ring-based namespace tree partition scheme.
- Theoretically present the space complexity of angel tree.
- Implemented AngleCut algorithm and other algorithm that need to compare with, including Hashe-Based Mapping, Static Subtree Partition and Dynamic Subtree Partition, and practically varified the superior in both locality and load balancing of AngleCut over several other algorithm.

## SELECTED PROJECTS

**Music action game on embedded system** (Top 2 project in SEIEE) 2015 finished  
Supervised by Professor Hongzi Zhu, in Institute of Network and Service Computing, SJTU

- Developed a music action game using CPU with limited performance (Cortex M3).
- Interacted directly with hardware and implemented the game using numerical peripherals (LCD, I<sup>2</sup>S, I<sup>2</sup>C, etc).
- Optimized both in hardware and software. Hardware optimizaion includes using DMA to achieve parallelism in playing music and dealing with LCD events. Software optimization includes minimizing the pixels to draw each frame and generating all the note pattern in advance.

**Football and player tracing in low-quality video** (Top 1 project in class) 2016 finished  
Supervised by Professor Bin Sheng, in the Department of Computer Science, SJTU

- Designed an algorithm to trace the players and football in a video with poor quality and achieved high accuracy.
- Implemented classic object tracing algorithm such as Frame Difference to trace the players.
- Invented a new algorithm, Weighted Matrix, to particularly trace football. The weighted matrix could successfully distinguish football from similar objects such as shoes and gloves in a sequence of frames and achieved a high tracing accuracy of 77%.

**Segmentation of Abdominal Adipose Tissues via Deep Learning** 2015 finished  
Supervised by Prof. Ruimin Shen, in Institue of Computer Application, SJTU

- Designed a deep learning algorithm whose segmentation time was 20 seconds per slice, with an accuracy of: 0.94+/-0.02 for SAT, 0.88+/-0.04 for VAT.
- Implemented user friendly UI and allowed users to manual revising the error parts.
- Implemented 3D Volume Rendering of multiple images with OpenGL.

## INTERNSHIP

Internship at Intel Asia Pacific R & D Center(Open Source Technology Group) 2016.6-present

- WebGL2 Feature Investigation and Benchmark Design
  - Investigated 3D graphics rendering process and GLSL shading language.
  - Investigated transformation, lighting and blending algorithms.
  - Designed and implemented numerical benchmark tests for WebGL2's new feature including Transform Feedback, Multiple Target Rendering, Instance Drawing, etc..

- Verified the performance enhancement of these tests when adding WebGL2 new features. (You can check these benchmark tests at [https://github.com/zyxiaooo/WebGL2\\_bench](https://github.com/zyxiaooo/WebGL2_bench).)

- ChromeOS WebDriver Auto Control with Python

- Proposed an approach of using Selenium to control the browser in ChromeOS. Normally, we can control the browsers of Linux and Windows easily with Python, but things were quite different in ChromeOS.
- Implemented the approach and provided a class with which users could control the browser of ChromeOS just like other OS.

## SKILLS

---

Language & Tools:	C/C++, JavaScript, Python, Java, MATLAB, OpenCV, OpenGL & WebGL, HTML, swift, Verilog, $\text{\LaTeX}$
Platform:	Windows, Linux, Android, IOS, Embedded System
Others:	Audio&Video Processing with Pr, Au, Ps

## AWARDS

---

3 <sup>rd</sup> prize in China Mathematics Olympiad (CMO)	2012
1 <sup>st</sup> prize in National High School Math League	2012
Pan Wen Yuan Scholarship (5/693)	2014
Academic Excellent Scholarship	2014
Academic Excellent Scholarship	2016
Honorable Mentioned in MCM	2016

## EXTRACURRICULUM ACTIVITIES

---

Member of Alumni Service Association	2014
Volunteer in Shanghai International Marathon	2014
Volunteer in blood donation,	2016