

Yuxiao ZHANG

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SKILLS

Language & Tools: C/C++, Java, JavaScript, Python, HTML, Swift, OpenCV, OpenGL, WebGL, PCL, MATLAB, Verilog
Platform: Windows, Linux, Android, IOS, Embedded System

EDUCATION

Yale University, New Haven, CT

M.S. in Computer Science

expected 5.2018

Courses: Building Distributed Systems, OO Programming, Database System, Computer Graphics

Shanghai Jiao Tong University (SJTU), Shanghai

B.S. in Computer Science, Major GPA: 3.87/4.0, Overall GPA: 3.78/4.0

6.2017

Awards: Pan Wen Yuan Scholarship, Academic Excellent Scholarship, Honorable Mentioned in MCM

INTERNSHIPS

Shanghai Xiaoheng Technology Co., Ltd.

3.2017 - 7.2017

Algorithm Intern, C++

- Developed function pipeline from raw camera data to 3D OBJ housing model as a 6-person team.
- Designed and implemented algorithms to refine the process of generating the OBJ model from original point cloud, and to generate housing plan from 3D housing model.

Intel Asia Pacific R&D Center

6.2016 - 11.2016

Software Engineering, JavaScript & C++

- Investigated 3D graphics rendering process, GLSL shading language and transformation, lighting and blending algorithms.
- Developed numerical benchmark tests for WebGL2's new features, including Transform Feedback, Multiple Target Rendering, Instance Drawing, etc.
- Verified performance enhancement of these tests when utilizing new features of WebGL2.

RESEARCH EXPERIENCES & SELECTED PROJECTS

Decentralized Communication System based on Gossip Protocol, C++

9.2017 - present

- Developed a peer-to-peer application called peerster providing text-based multicast chat.
- Implemented gossip protocol to distribute messages among directly and indirectly connected nodes.
- Built point-to-point communication mechanism and also a NAT/firewall traversal facility enabling peers to connect with others even behind NAT-firewalls.

Remote Audio Source Localization With One Single Smartphone, Java

1.2016 - 5.2017

- Designed an innovative acoustic indoor source localization system based on two microphones of a single smart phone able to localize far away acoustic source (up to 5m).
- Built the location system on Android OS smartphone and tested it for hundreds of times in different scenes.

Music Action Game on Embedded System, C

5.2016 - 6.2016

- Developed a music action game using CPU with limited performance (Cortex M3). Interacted directly with hardware and implemented the game using numerical peripherals (LCD, I²S, I²C, etc).
- Optimized both in hardware and software, including using DMA to achieve parallelism, minimizing pixels in LCD display and generating the pattern of notes in advance.

Football and Player Tracing in Low-Quality Video, C++

4.2016 - 6.2016

- Designed an algorithm to trace players and the football in a football match video with poor quality (720×576 with blurred and jittered picture). Implemented classic object tracing algorithm such as Frame Difference.
- Proposed a new algorithm, Weighted Matrix, to trace the football, which 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%.

PUBLICATIONS

[1] **Yuxiao Zhang**, Hongzi Zhu, Shan Chang. "HyperEar: Remote Audio Source Localization with One Single Smartphone", submitted to INFOCOM 2018.