Binhan Xu | Resume

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Education

University of California, Santa Barbara(UCSB) · **Goleta, CA**
Department of Computer Science · *2015.09–present*
2nd year Master Student in Computer Science
GPA: 3.67/4.0
Courses: Scalable Internet Services, Augmented Reality, Database Management System, Smartphone-centric Application Development, Runtime System, Advanced Distributed System, Advanced Computer Vision

University of Electronic Science & Technology of China(UESTC) · **Chengdu, China**
School of Electronic Engineering · *2011.09-2015.07*
Bachelor of Engineering in Electronic Information Engineering
GPA: 91.8/100, Major Rank: 1/358, **Scholarship: National Scholarship in 2012 & 2014**

Programming Skills

Proficient in: C++, JAVA, Python, OpenCV, OpenGL, MATLAB
Frequent use: Ruby on Rails, Android, HTML5, Bash, Git

Projects

Distributed System Implementation based on RAFT protocol (Python) · **Goleta, CA**
UCSB · *2016.03–2016.06*
- Developed system architecture consisting of multiple datacenters and requesting clients.
- Wrote Python code to implement RAFT consensus algorithm as data management protocol to ensure correctness of log propagation across datacenters.
- Implemented leader, candidate and follower modules and their respective duties during RAFT process.

3D AR Tetris Game (Vuforia, Android, OpenGL) · **Goleta, CA**
UCSB · *2015.09–2015.12*
An interactive **Android** Tetris Game using Augmented Reality technology.
- Implemented the backend logic of 3D AR Tetris Game using OOP framework.
- Achieved marker-based manipulation to enable AR control of tetris movement.
- Wrote code to achieve critical functions and modules, including angle detection, border detection and coordinate system transition.

ProductGrabber (Ruby on Rails) · **Goleta, CA**
UCSB · *2015.09–2015.12*
A web service featuring 100k-product catalog and product attribute comparison functionality.
- Developed features about product preferences, product comparison and product recommendation.
- Conducted vertical Tsung tests on AWS to test scalability of our web services.

Research

Video stabilization using hybrid approach (C++, MATLAB) · **Chengdu, China & Beijing, China**
*Image & Video Processing Laboratory, UESTC & **Microsoft Research Asia*** · *2014.09–2015.05*
Achievement: Improved current approaches in video stabilization. Specifically tackled on videos with near-range content.
- Improved state-of-the-art video stabilization approach by employing infinite-tomography motion model to reduce content distortion when stabilizing near-range video clips.
- Developed adaptive hybrid motion estimation model to associate model selection with video content.

Multiple video mosaicking (C++, MATLAB) · **Chengdu, China**
Image & Video Processing Laboratory, UESTC · *2014.09–2015.05*
Achievement: Able to stitch multiple video clips with overlapping content together to render a larger view.
- Developed the processing framework based on bundle-path motion estimation model (currently only used in video stabilization).
- Granted **Central University Research Funds**.

Publication

A Hybrid Approach for Near-Range Video Stabilization
Shuaicheng Liu, **Binhan Xu**, Chuang Deng, Shuyuan Zhu, Bing Zeng, Moncef Gabbouj.
IEEE Transactions on Circuits and Systems for Video Technology (TCSVT), 2016