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

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

Courses

Mobile development(**Android**), Scalable Internet Services(**Ruby on Rails**),
Runtime System(**Java Virtual Machine**), Augmented Reality

Programming Skills

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

Projects

AR Tetris (Vuforia, Android, OpenGL) **Goleta, CA**
UCSB *2015.09–2015.12*
An Augmented Reality Android Tetris Game enabling players to control tetris movements using markers.
- Developed OOP-based framework in Android Studio(>1k lines) using Vuforia and OpenGL ES 2.0 library.
- Implemented the entire game engines to achieve marker-based AR control of tetris translation movements and rotations.
- Implemented critical backend logic, such as angle detection, border detection and coordinate system transition.

ProductGrabber: E-shopping website desgin (Ruby on Rails, MySQL) **Goleta, CA**
UCSB *2015.09–2015.12*
An E-commerce web application featuring 100k product catalog.
- Retrieved product information through Amazon query API and employed MySQL database server to store data.
- Developed price comparison and product search functionalities using Solr packages with Ruby on Rails.
- Deployed application onto Amazon Web Service and conducted vertical Tsung tests to examine scalability.

RemoteSelfie: Real-time photo composition (Android, OpenCV) **Goleta, CA**
UCSB *2016.09–present*
An Android application enabling users to perform photo composition in real-time.
- Implementing user-in-loop foreground detection and image blending algorithms on Android platform using Android NDK.

ArtLens: Museum painting recognition (Android, OpenCV) **Goleta, CA**
UCSB *2016.09–present*
A mobile painting recognition application to assist museum visitors.
- Exploring and comparing different image processing APIs (Google Vision API, Digimarc, Picliq, Vayar, etc) for painting recognition.

Research

Video stabilization using hybrid approach (C++) **Chengdu, China & Beijing, China**
*UESTC & **Microsoft Research Asia*** *2014.09–2015.05*
Achievement: Improved stabilization quality for near-range videos.
- Proposed a new infinite-homography motion model to combine with original SFM-based 3D reconstruction motion model to reduce video content distortion.
- Implemented the improved processing pipeline in C++(>2k lines) using SURF and SIFT library(OpenCV).
- Resulted in an IEEE submission. (See Publication)

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