Binhan Xu | Resume

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Education

University of California, Santa Barbara(UCSB) **Goleta, CA**
Department of Computer Science *2015.09–present*
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

Programming Skills

Proficient in: Java, C++, Python, Ruby on Rails, MATLAB, OpenCV, OpenGL
Programming Tools: Android Studio, Eclipse, Git, Bash

Projects

RemoteSelfie(Android, OpenCV4Android) **Goleta, CA**
UCSB *2016.09-2016.12*
An Android application enabling users to perform photo composition in real-time.
- Developed a mobile application enabling users to preview photo composition effects in real-time using OpenCV4Android.

DS Blog(Python) **Goleta, CA**
UCSB *2016.03-2016.06*
A simulated global micro-blogging distributed system in Python supporting RAFT protocol.
- Simulated a global micro-blogging infrastructure using Socket and Pickle library(in Python) to enable cross-datacenter communication.
- Implemented RAFT protocol in Python to manage cross-datacenter log propagation and replication.

ARTetris(Android, Vuforia, OpenGL) **Goleta, CA**
UCSB *2015.09-2015.12*
An Augmented Reality Android Tetris Game in 3D.
- Designed an AR Tetris Game in 3D enabling players to control the movement and rotation of virtual 3D Tetris in physical world using a special marker, instead of using screen buttons or keyboards.
- Developed the backend OOP framework of the game.
- Implemented the entire game engine in Java(>1.5k lines), including the horizonal-movements and rotation of Tetris, angle detection, border detection and coordinate system translation using Vuforia SDK and OpenGL ES 2.0 library.

ProductGrabber(Ruby on Rails, MySQL) **Goleta, CA**
UCSB *2015.09-2015.12*
An E-commerce web application developed with Ruby on Rails featuring 100k product catalog, product search and price-comparison functionalities.
- 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 the application onto Amazon Web Service and conducted vertical Tsung tests to examine scalability.

Research

Video stabilization using hybrid approach (C++) **Chengdu, China & Beijing, China**
*UESTC & **Microsoft Research Asia*** *2015.01–2015.06*
Achievement: Improved stabilization quality for near-range videos.
- Focused on stabilizing and removing jitters from casual videos recorded on mobile devices or hand-held cameras.
- 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