Binhan Xu | Resume

6565, Trigo Rd, Goleta, CA 93117

📞 (805)6890497 • ✉ binhanxu@cs.ucsb.edu • 🖥 binhanxu.github.io

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, Courses: Runtime System(JVM), Database System, Scalable Internet Services(Ruby on Rails), Augmented Reality, Computer Vision, Computer Imaging, Smartphone-centric Application Development

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, Javascript, NodeJS, C++, Python, Ruby on Rails, MATLAB, OpenCV, OpenGL
Programming Framework/Tools: Android Studio, MongoDB, Express, REST, HTML, CSS, MySQL, Git, Bash

Projects

Diner(Javascript, NodeJS, MongoDB, Express, REST, CSS, HTML)   **Goleta, CA**
UCSB   *2016.10-present*
A website enabling users to share food, post recipes and host dinner for interested guests.
- Designed an online food-sharing platform where users could either post their homemade dishes to host meals or find families hosting meals near them to save bucks for dinners.
- Developed RESTful routes and backend controllers using NodeJS within Express framework and employed MongoDB to store user data.
- Developed the front-end using Bootstrap/CSS and retrieved fake data through Yelp and Flickr API to test display and search functionalities.

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(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 and implemented the entire game engine in Java, 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, REST, CSS, HTML)   **Goleta, CA**
UCSB   *2015.09-2015.12*
An E-commerce website 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 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++, OpenCV)   **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++ 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