# **RUOFEI SHEN**

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EDUCATION		
	California Institute of Technology	
	M.S. in Electrical Engineering (GPA: 4.04/4.0)	

 Relevant Courses: Operating System, GPU Program., Functional Program., Distributed Computing, Relational Database Communication Networks, Machine Learning & Data Mining, Advanced Machine Learning

 Shanghai Jiao Tong University
 Sep. 2012 - June 2016

 B.S. in Electrical Engineering (GPA: 3.97/4.0 Rank: 1/162), Shanghai Outstanding Graduate
 Shanghai, China

### WORK EXPERIENCE

### Hulu, Subscription & Billing Team

Software Developement Intern, Scala/Python

- Rewrote Hulu's subscription to accounting entries translation system and transplant it from Hadoop (CDH-4.4.0) to Spark-2.1.0 which speeds up to 3 times with same computing resources using Scala. Launched into Production.
- Setup Jenkins for subscription system and implemented workflow scheduler to periodically run it using Apache Airflow.
  - Intel, Visual & Parallel Computing Group

Sep. 2015 - Mar. 2016 Shanghai, China

June 2017 - Aug. 2017

Santa Monica, CA

Sep. 2016 - Dec. 2017(expected)

Pasadena, CA

Software Developement Intern, C#/Python

- Developed a Video Player to support 10-bit and 16-bit YUV video formats P216, Y210, Y216, AI44, etc. using C#.
- Developed test-bed tools for testing Intel Graphics' Drivers over 7th generation core processor microarchitecture.

### **RESEARCH EXPERIENCE**

Research on the Localization-based Services (LBS).

- 1. X. Tian, **Ruofei Shen**, et al., "Performance Analysis of RSS Fingerprinting based Indoor Localization", in *IEEE Transactions on Mobile Computing*, 2016. (Accepted)
- 2. X. Wu, **Ruofei Shen**, et al., "iBILL: Using iBeacon and Inertial Sensors for Accurate Indoor Localization in Large Open Areas", in *IEEE Access*, 2017. (Accepted)

### SELECTED PROJECTS

# Pintos Operating System Projects Jan. 2017 - Mar. 2017, Caltech Built Pintos PC Booter, Multi-threads Scheduler, and User Programs mechanism:Argument Pass and basic System Calls. Designed Pintos Virtual Memory and File Systems fully supporting Paging, Stack Growth, Memory Mapped Files: mmp, munmap, Buffer Cache, Extensible Files, and Subdirectories: chdir, mkdir, isdir, inumber, readdir. GPU Real-Time Ray Tracer May 2017 - June 2017, Caltech Built the Ray Tracer system using Phong model based on the OpenGL including recursive reflection and refraction. Paralleled the system using CUDA, and realized iterative reflection and refraction using backward raytracing algorithms. Network Simulator for TCP protocols Sep. 2016 - Dec. 2016, Caltech Designed a network simulator including TCP congestion control algorithms (TCP-Reno and FAST TCP) using Python. Implemented the dynamic routing mechanism based on the Bellman-Ford algorithm under different network topologies. Bird Classification & Detection

- Trained a network based on pre-trained VGG16 to classify Caltech-UCSD Birds dataset using image cropping & warping.
- Implemented and trained a MultiBox detector to predict the bounding boxes of birds in CUB-2011 dataset using R-CNN.
   Rankmaniac: PageRank Computation using MapReduce
   Feb. 2017 Mar. 2017, Caltech
- Implemented the PageRank based on the Amazon AWS EMR, and optimized it using multi sequential MapReduce steps.
   Android Mobile Application Development
   Apr. 2015 July 2015, SJTU
- Developed an Android Application to remotely control ZRobot vehicle based on the combination of WIFI and Bluetooth.

## MISCELLANEOUS

**Programming Languages:** Proficient in Java/Python/Scala/C/C++, Familiar with Haskell/HTML/CSS/C#/Perl **Platform** & **Tools:** AWS, Spark, MapReduce, CUDA, Apache Airflow, MySQL, Git, OpenGL, Android Studio, Jenkins **Teaching Assistant:** Statistical Inference (CS 157), Introduction to stochastic processes and modeling(ACM 116)