Jiacheng Chen

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Education

2016-Present	**Simon Fraser University**, *Bunarby*, BC, Canada. B.Sc in Computing Science, Dual Degree Program, GPA: 4.17/4.33
2014-Present	**Zhejiang University**, *Hangzhou*, Zhejiang, China. B.Sc in Computer Science and Technology, GPA: 3.93/4.0

Publication and Preprints

2018 **Probabilistic Neural Programmed Networks for Scene Generation**,
Zhiwei Deng, Jiacheng Chen, Yifang Fu, Greg Mori,
NIPS'2018 (spotlight).

2018 **Adaptive Appearance Rendering**,
MengyaoZhai, Ruizhi Deng, Jiacheng Chen, Lei Chen, Zhiwei Deng, Greg Mori,
BMVC'2018.

2018 **Scalable Distributed Visual Computing for Line-Rate Video Streams**,
Chen Song*, Jiacheng Chen*, Ryan Shea, Andy Sun, Jiangchuan Liu,
ACM MMSys'18.

2017 **Learning to Forecast Videos of Human Activity with Multi-granularity Models and Adaptive Rendering**,
Mengyao Zhai, Jiacheng Chen, Ruizhi Deng, Ligeng Zhu, Lei Chen and Greg Mori,
ArXiv Preprint.

Research Experience

June 2018- **Research Assistant**,
VML Lab, Simon Fraser University, Advisor: Prof.Yasutaka Furukawa.
Research on indoor reconstruction and scene understanding

May 2017- **Research Assistant**,
VML Lab, Simon Fraser University, Advisor: Prof.Greg Mori.
Research on generative models, image/video understanding and synthesize

Sept 2017- **Research Assistant**,
Big Data Research Project, Simon Fraser University, Advisor: Prof.Ryan Shea.
Research on distributed computing system integrated with computer vision

Honours and Awards

2017 **Meritorious Prize**, *Mathematical Contest in Modeling(MCM)*.
Top 7% in all participants of the competition

2017 **First Class Entrance Scholarship**, *Simon Fraser University*.
The scholarship rewards top 10% students in SFU-ZJU Dual Degree Program

2016 **First Prize Academic Scholarship**, *Zhejiang University*.
The scholarship rewards the top 5% student according to academic behavior

Selected Projects

April 2017 **Action Recognition Exploration**, *Github link*.
- Explored and Implemented a bunch of popular deep-learning-based human action recognition models including two-stream CNN(RGB and Optical Flow), C3D, LRCN, etc.
- Implemented a Web app in which local and online videos can be imported and recognized.

Dec 2016 **Color-Consistent Vegetable Classifier**.
- Trained a CNN classifier based on pre-trained ResNet-50 model for identifying among 50 different kinds of fruits and vegetables with over 60% top-1 accuracy
- Applied a logarithmic preprocessing technique to enhance the model's stability under different light environments
- Implemented a web application for the classifier with Django to make it both accessible for desktop and mobile users

Oct 2016 **Basic Shell**, *Github link*.
- Implemented a shell(for Linux) with C and system calls which simulates the functionality of bash
- Implemented pipe using inter-process communication to make the shell support complex and integrated commands

Sept 2016 **SFU Wechat Assistant**, *Github link*.
- Built up a Wechat intelligent assistant for reporting SFU calendar automatically by sending notifications about classes and other important events
- Deployed the assistant on our VPS and made it accessible to everyone who subscribes our public Wechat account

June 2016 **MiniSQL**, *Github link*.
- Designed a mini database system using Python and successfully passed MySQL-based test cases
- Conducted unit test on core modules with automatic testing tools to maintain the quality of the code
- Implemented a SQL interpreter with PLY and Backus Normal Form to parse SQL language

Feb 2016 **FPGA Greedy Snake Game**.
- Implemented the classic greedy snake game on FPGA using Verilog HDL
- Created different patterns by plotting bitmaps to prettify the game with the theme of Pac-Man
- Designed algorithms based on geometrical principles for controlling the shape of snake while moving and rotating