

# Ruizhi Deng

8888 University Drive  
Burnaby, BC V5B 1V3  
☎ (778) 636 0776  
✉ ruizhid@sfu.ca  
🌐 ruizhid.me

## Education

- Sep. 2017– Present **Simon Fraser University, Burnaby, BC Canada.**
- Master of Science in Computing Science. *GPA: 4.07/4.33*
  - Advisor: Dr. Greg Mori
  - Selected Courses: CMPT 829 - Special Topics in Bioinformatics, CMPT 888 - Computational Photography
- Sep. 2013– Dec. 2016 **The University of Michigan - Ann Arbor, Ann Arbor, MI.**
- Bachelor of Science in Mathematics, Minor in Computer Science. *GPA: 3.85/4.0*
  - Graduated with High Honor.
  - Research Advisor: Dr. Honglak Lee.
  - Selected Courses: EECS 545 - Machine Learning, EECS 442 - Computer Vision, STATS 620 - Applied Probability and Stochastic Modeling, MATH 597 - Real Analysis

## Research Interests

I'm interested in studying fundamental problems in machine learning. Currently, my research focus is adversarial learning. I also have have past experience and on-going work on neural network architecture design and generative models.

## Professional Experience

### Research

- Sep. 2017– Present **Research Assistant, School of Computing Science, Simon Fraser University, Burnaby.**
- Supervised by Dr. Greg Mori.
  - Future video future frame prediction based on multi-granularity representations.
  - Improving the parameter-performance efficiency of Densely Connected Convolutional Networks with sparse skip connections.
- Feb. 2016– Dec. 2016 **Research Assistant, EECS Department, The University of Michigan, Ann Arbor.**
- Supervised by Dr. Honglak Lee.
  - Interactive semantic segmentation using Fully Convolutional Networks.
  - Wound segmentation on medical images with recurrent neural networks and fully connected conditional random field.
  - Contributing to developing a mobile application for wound segmentation and area estimation using images taken by cell phones.

### Industry

- Mar. 2017– May. 2017 **General Software Engineer Intern, TuSimple, San Diego.**
- Supervised by Dr. Panqu Wang
  - Video semantic segmentation stabelization with optical flow.
  - Car and pedestrain contour detection.
  - Curb detection in 3D point cloud.

## Publication

- 2017 **Learning to Forecast Videos of Human Activity with Multi-granularity Models and Adaptive Rendering.**  
*ArXiv Preprint* [arXiv]  
Mengyao Zhai, Jiacheng Chen, **Ruizhi Deng**, Ligeng Zhu, Lei Chen, Greg Mori
- 2018 **Sparsely Aggregated Convolutional Networks**  
*ArXiv Preprint* [arXiv] [project page]  
Ligeng Zhu, **Ruizhi Deng**, Michael Maire, Zhiwei Deng, Greg Mori, Ping Tan
- 2018 **Characterize Adversarial Examples Based on Spatial Consistency Information for Semantic Segmentation**  
*ArXiv Preprint* coming soon  
Chaowei Xiao, **Ruizhi Deng**, Bo Li, Fisher Yu, Mingyan Liu, Dawn Song

## Skills

**Programming Languages:** Python, MATLAB, C/C++,  $\LaTeX$ , Markdown, Bash  
**Library and Toos:** PyTorch, Tensorflow, OpenCV, scikit-learn, MxNet, Caffe

## Honors and Awards

- |            |                                |                                       |
|------------|--------------------------------|---------------------------------------|
| 2017       | Graduate Fellowship            | Simon Fraser University               |
| 2015, 2017 | James B. Angell Scholar        | The University of Michigan, Ann Arbor |
| 2016       | Graduate with High Distinction | The University of Michigan, Ann Arbor |
| 2013 -2015 | University Honors              | The University of Michigan, Ann Arbor |