

# Chuanyang Zheng

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[Google Scholar](#) [Home Page](#) [GitHub](#)

## Research Interests

Computer Vision, Machine Learning, Data mining, Security

## Academic Position

### Hong Kong Baptist University

June 2020 - now

Pattern Recognition and Machine Learning Laboratory. Work With Ph.D. Lyu Fei  
– Research Assistant

### Hong Kong Baptist University

Dec.2019 - May

Pattern Recognition and Machine Learning Laboratory. Work With [Xiangyuan Lan](#)  
– Research Assistant

## Education

### Hong Kong Baptist University

Sept.2017 – now

B.SC., Computer Science(**Top 5%**)  
– CGPA (in the past four semesters): 3.78  
  
– Major GPA: **3.89(1/75)**

## Major Courses

MATH1005 Calculus(A)	COMP1005 Essence of Computing(A-)
MATH 2005 Calculus, Probability, and Statistics for Computer Science(A-)	MATH1205 Discrete Mathematics(A)
COMP2007 Object Oriented Programming(A-)	COMP2206 Computer Organization(A)
MATH2207 Linear Algebra (DT)	COMP2215 Data structure and algorithms(A)
COMP2216 Database Management(A)	COMP2217 Operating System(A)
COMP3015 Data communication and Networking (DT)	COMP3047 Software Engineering (DT)
COMP4015 Artificial Intelligence and Machine Learning (DT)	

**Note: DT is equal to A range but not calculated in GPA**

## Awards and Honors

Summer Research Scholarship	2020
C.V. Starr Scholarship(20K HKD)	2020
Outstanding Student Scholarship(6K HKD)	2019
Summer Research Scholarship(8K HKD)	2019
Nominated to Visit McGill University ( <b>top 1%,100K HKD</b> )	2019
Undergraduate Scholarship in Computer Science(12K HKD)	2018
President's Honour Roll	2017 semester 2-Now

## Journal Publications

1. Qikun, Z., Yongjiao, L., Yong, G., **Chuanyang, Z.**, Xiangyang, L., & Jun, Z. (2019). Group Key Agreement Protocol Based on Privacy Protection and Attribute Authentication. IEEE Access, 7, 87085-87096.

## Conference Publications

1. Nonnegative Residual Matrix Factorization for Community Detection. Yulong Pei, Cong Liu, **Chuanyang Zheng**, Long Chen. KSEM 2020. (Submitted)

## Research Experiences

### Student Research Assistant at Hong Kong Baptist University

May 2019 – Sept 2019

#### Computer Vision and Machine Learning Laboratory

- worked on cross-modality person re-identification. Leveraging cycleGAN for data augmentation. By our method, given N images, we can use 4\*N images by generated identity images, fake images, and cycle-consistent images.
- Supervisor: [Pong Chi Yuen](#) [Mang Ye](#)
- Baseline:46.8%      Ours:66.78% [\[pdf\]](#)

### COMP Artificial Intelligence And Machine Learning

October 2019 – December 2019

- worked on CycleGAN. Develop Multiple-CycleGAN. [\[Report\]](#)
- CycleGAN only cycles once. According to Squeeze Theorem, we add additional cycles by regards cycle-consistent images as real images. There are two advantages compared to the original CycleGAN. First, according to Squeeze Theorem, the cycle-consistent should be much closer to the original real images. Second, we can get more images as input because we regard cycle-consistent images as real images

### COMP Medical Images And Its Application

January 2020 – Now

- worked on Faster R-CNN
- Object: given liver lesion images, find the lesion.
- Two Improvement. First(Preprocess), outside the liver, CT images have a lot of useless pixels in which the pixel value is 0. We use a simple traditional algorithm to find the liver in an image before giving it to Faster R-CNN. Second(New FPN), we add ResNet and DenseNet idea to Feature Pyramid Network.
- Performance(ablation study): baseline(Faster R-CNN): 61.92%      proposed Model:69.28%  
deleteNewFPN(use original FPN+Preprocess):68.5%      deleteFPN:67.76%      deleteFlip:67.36%      delete  
PreCrop 67.2%
- Report. [\[Initial Proposal\]](#) [\[Final Report\]](#)

## Tools

- Programming Language: Java, Python & C++
- Packages: pytorch