

# HU, YIXUAN H.Y. 胡以璇

## Curriculum Vitae

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## EDUCATION

- 2014 – 2015 **Master of Science**  
TELECOMMUNICATIONS  
*The Hong Kong University of Science & Technology*
- 2010 – 2014 **Bachelor of Economics**  
FINANCE  
*Harbin Institute of Technology*
- 2009 – 2013 **Bachelor of Engineering (major)**  
TRAFFIC INFORMATION & CONTROL ENGINEERING  
*Harbin Institute of Technology*

## PROFESSIONAL SKILLS

- Knowledge **Deep learning, Computer vision, Time series analysis, DSP, Linux, MacOS, Windows, Android, Git, L<sup>A</sup>T<sub>E</sub>X, Markdown, MS Office**
- Skills **Tensorflow, Keras, Caffe, OpenCV, OpenCL, CUDA, OpenMP, Pthread, C/C++, Python, Native JAVA, Assembly, Neon Instruction Set, SSE, AVX**

## PROFESSIONAL KNOWLEDGE

- MACHINE LEARNING **Multimedia & Computer Vision**, Image classification, Instance detection & segmentation, Object tracking
- PARALLEL COMPUTING Multi-thread/process, concurrent design SIMD, **GPU computing**, Neon
- MEMORY SYSTEM **Cache System**, Bus System, Memory access design
- PROCESS MANAGEMENT Unix-like process management, un-symmetric CPU architecture algorithm optimization

## MISCELLANEOUS

- **Githuber**, hacker & artisan spirit, programming lover.
- Kant philosophy, metaphysics.
- Critical and creative thinking, good logic stringency.
- Cumulative blood donation 1600 cc.

## WORK EXPERIENCE

CURRENT, FROM APR. 2018

Insight Technology Inc.  
*Senior Deep Learning Software Engineer*  
Deep learning based computational pathology.

### AI assistant diagnose system for cervical cytology

*Key word: Cervical cytopathology, TBS, Deep learning*  
AI assistant analysis for cervical pap smear images. Malignant cell detection, cell & nuclei analysis, pre-cancer diagnose.

### Tubercle bacillus detection on sputum cytology image

*Key word: Sputum cytopathology, Deep learning*  
Convolutional neural network based tubercle bacillus on sputum pathology image.

APR. 2018, FROM FEB. 2017

Hong Kong Applied Sci. & Tech. Research Institute  
*Multimedia Processing Engineer*  
Focus on computer vision algorithms and deep learning applications, video analysis, **face detection, pedestrian detection & tracking, body key point detection**, real time panoramic image stitching and biomedical image analysis.

FEB. 2017, FROM JUL. 2015

TCL Corporate Research, Hong Kong  
*High Performance Computing Engineer*  
Responsible for computer vision & deep learning algorithms optimisation & acceleration on server and **mobile**. Feature engineering based **face detection** & recognition, **face landmark alignment**.

## PATENT

**Mask-RCNN based cell & nuclei instance segmentation**  
*CN2019101196074*: Cervical cell and nuclei segmentation model based on Mask-RCNN.

**An Audio High Frequency Reconstruction Algorithm**  
*CN2016103403041*: An algorithm that use the low frequency audio signal to speculate and reconstruct high frequency part for music player. Turn low quality music source to 192kbps HiRes audio signal.

**An Bluetooth Based Localisation & Tracking Algorithm**  
*CN2016112700564*: An algorithm that use multiple bluetooth devices' RSSI to infer target device's location, can be applied on UAVs to automatically tracking human.