



Richard, Yan Chak Li | CV

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born @ 23/04/1995

Research Interest

Computer Vision, Pattern Recognition, Medical Image Analysis, Bioinformatics

Education

Academic Qualifications.....

- **The Hong Kong University of Science and Technology** **Hong Kong**
M.Phil. in Bioengineering , Supervised by Prof. Richard H.Y. So 2017–now
- **The Hong Kong University of Science and Technology** **Hong Kong**
B.Eng. in Computer Engineering , Minor in Mathematics 2013–2017

Notable Projects.....

- **Masters Research Project (Ongoing): 'Automatic Vertebral Fracture Detection'**
Supervised by Prof. Richard So, Dept. of CBE IEDA, HKUST
In this big data era, many medical images are acquired, with Doctors diagnosis report. With medical images and their diagnosis result, supervised learning can be applied. With rapid development of deep learning, desirable automatic diagnosis can be done on vertebral fracture.
- **UG Final Year Project 'Digitizing Receipts'**
Supervised by Prof. Albert Chung, Dept. of CSE, HKUST
An Android application was built for converting receipts from shops to digital format like XML. Optical Character Recognition(OCR) library – Tesseract is employed in this App. Our App also tried to convert multiple receipts in one image.
- **Undergraduate Research Opportunities Program (UROP) 'Improving the Efficiency of Spectral Library Searching in Mass Spectrometric Data Analysis'**
Supervised by Prof. Henry Lam, Dept. of CBE, HKUST
We proposed a new similarity measure on MS2 (tandem mass spectrometry) data - cosine similarity of random pairs (CS-RP). This method reduces time cost of retention time alignment by SWATH or other DIA-MS2 data, also validating RT alignments with MS1-based method.

Publications

- **Y. C. Li, L. Wu, H. Lam.** 'Fast Similarity Measure of SWATH-MS by Cosine Similarity of Random Pairs(CS-RP).' Asia Oceania Mass Spectrometry Conference (AOMSC) 2017, Biopolis, Singapore (2017).
- L. Wu, **Y. C. Li**, H. Lam. 'An efficient and accurate feature-based label-free quantification software tool

for SWATH MS data.' 15th Human Proteome Organization World Congress, (HUPO 2016), Taipei, China, 18-22 September 2016

Awards

- **Young Scientist Travel Award, Asia Oceania Mass Spectrometry Conference 2017** **Singapore**
'Fast Similarity Measure of SWATH-MS by Cosine Similarity of Random Pairs(CS-RP).'
- **Dean of Engineering Scholarship** **Hong Kong**
Well Performance in HKDSE. Sep 2013

Working Experience

- **IELM 2100E, HKUST** **Hong Kong**
Graduate Teaching Assistant Feb 2018–May 2018
- **Department of Computer Science and Engineering, HKUST** **Hong Kong**
Student Helper Aug 2016–Aug 2017
- **Institute of Emerging Market Studies, HKUST** **Hong Kong**
Student Helper Sep 2015–Aug 2017
- **School of Engineering, HKUST** **Hong Kong**
Student Helper of COMP 1022P tutorial Jul 2016
- **Hong Kong Telecommunication Limited** **Hong Kong**
Summer Internship Jun 2015–Aug 2015
- **Pigeon City Creative Computer Centre** **Hong Kong**
Part-time Tutor Feb 2015–May 2015
- **SkyWare Technologies Limited** **Hong Kong**
Technical Support May 2013–Aug 2013

Skills

- **Programming Languages:**
Proficient in: Python (Numpy, OpenCV, PyTorch, Scikit-learn etc.), MATLAB
Intermediate: C++, C
Basic: CUDA C, Java, Javascript, HTML, R
- **Language:** Cantonese, English, Putonghua (intermediate)