MangTik CHIU

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Education

University of Illinois at Urbana-Champaign **2018 – 2020**
Master of Computer Science

Hong Kong University of Science and Technology (HKUST) **2014 – 2018**
Bachelor of Engineering
- Major in Computer Science and Engineering – **CGA: 3.707 / 4.3**
- Minor in Big Data Technology – **GPA: 4.12 / 4.3**

University of California, Davis **Sep – Dec 2016**
Overseas Exchange Program
- Major in Computer Science – **GPA: 3.85 / 4.0**

Leadership and experiences

Summer Junior Research Assistant **Jun – Aug 2018**
Involved in multiple computer vision projects using deep learning approaches (on-going)
- Video Stabilization
- Detail-preserved clothing transfer
- Detail-preserved makeup transfer

HKUST Undergraduate Research Opportunity Program **Feb – Aug 2017**
Emotion recognition of pedestrians from gait through videos
- Data collection, feature extraction and selection, machine learning model training and prediction
- System implementation on Android phone and Google Glass, server construction on AWS EC2
- Usage of OpenCV/Caffe/Sci-kit learn for computer vision and machine/deep learning methodology
- Paper “Emotion Recognition through Gait on Mobile Devices” presented at PerCom 2018 EmotionAware workshop

Signal Communication Ltd – Internship **Jul – Aug 2016**
Engineering trainee
- Paper implementation of P2P TCP/UDP hole punching communication for DVR/Client Paring
- Implementation of automatic email clients
- Cross compilation for customized ARM CPUs

HKUST Robotics Team, ROV **2015 – 2016**
Underwater robot sub team – Head of software, Secretary
- Robot control system, UI with rqt (ROS qt), CAN network communication design using Robot
- Operating System (ROS). Underwater camera image enhancement, object detection using OpenCV
- Task management of software and team progress and meeting recording
- Won 1st in Regional/Asia Competition, 4th in International Competition

Related projects

Computer vision
- Implementing well known computer vision tools, including magnetic lasso, face detection, single view metrology and multiple view modeling, in C++ and python

Deep learning for computer vision

- Implementation of multiple deep learning network models, including CNN, LSTM, GAN using raw numpy as well as in TensorFlow

Cloud computing and big data systems

- Criminal cases location analysis and visualization using k-means clustering on Amazon AWS EC2
- PySpark programming for distributed computing techniques

Big data mining and management

- Implementation of “Google scholar”-like data portal using publication data mined from Arxiv, DBLP, IEEE and ACM
- Text mining for similar article recommendation

Machine learning

- Recommendation system on Santander data using various machine learning methods

Other activities

Harvard - HKUST Summer Design experience **Jun – Jul 2017**

- Involved in software, electrical, mechanical design and manufacture of a Personal Electric Vehicle
- Additional R&D in road detection, camera feed streaming and remote monitoring using RasPi

Student Lab Helper **Feb – May 2017**

Lab helper for COMP2011 – Introduction to Object Oriented Programming

- Support and guidance for students with questions and struggles in programming logic

Related interests

Computer vision

- Personal projects such as line detection, optical flow pedestrian detection/tracking

Deep learning

- Implemented various techniques such as scene captioning, segmentation using Tensorflow

Machine learning

- Self-implemented light-weight feedforward neural network in C++ with no dependencies

Computer graphics

- Model rendering and control using OpenGL, implemented raw rendering functions in C++

Practical skills and experiences

Software/hardware

- C/C++, Python, Java/Android, Matlab/Octave, SQL, Arduino/STM32/Raspberry Pi

Framework/system

- OpenCV, OpenGL, Qt, scikit-learn, Tensorflow, ROS, WinAPI, Visual Studio, Linux

Languages

- Cantonese (Native), Mandarin (Native), English (Proficient)

Scholarships and Honors

Chiang Chen Overseas Fellowship **2018 – 2019**
Hong Kong Innovation and Technology Scholarship Award Scheme **2016 – 2017**
HKSAR Talent Development Scholarship **2016 – 2017**
HKSAR Reaching Out Award **2015 – 2016**