

# LIANG-YU (CHARLES) CHEN

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( Valid from Oct 15, 2020 )

## EDUCATION

**Columbia University in the City of New York**

M.S. in Computer Science

Sep 2020 - Dec 2021 (Expected)

**The Hong Kong University of Science and Technology (HKUST)**

B.E. in Computer Science, First Honors Graduate ( GPA : 3.65 )

Ceremony Honoring Students' Academic Excellence Awardee

Four-time Dean's List Awardee

Sep 2015 - Aug 2019

**Purdue University**

B.S. in Computer Science (Exchange Student)

Jan 2018 - May 2018

## COMPETITIONS

**Hong Kong Cyberport Creative Micro Fund (CCMF)**

Apr 2019

- Built a web cryptocurrency transaction audit platform prototype in Flask and won a sponsorship of 6,500 USD

**Second Runner-up in Think Quest International Competition**

Dec 2011

- Constructed a web application in PHP/JS to simulate harmful effect of arbitrary garbage disposal via 2D animation

## WORK EXPERIENCE

**Hong Kong Applied Science and Technology Research Institute**

Engineering Associate

Oct 2019 - Jul 2020

Hong Kong

- Trained multiple CNN models with over averaged 90% accuracy for environment attribute extraction
- Integrated models in Tensorflow frozen graph with C++ context in product software SRACE
- Developed DNN based feature selection image registration model for form document alignment
- Constructed new photorealistic document dataset for image registration using Blender 3D rendering
- Created a large text dataset from Hong Kong newspaper media via Selenium and MongoDB

**NAVER Corporation**

Research Intern

Jul 2018 - Sep 2018

Korea

- Improved averaged top-50 click-through rate of advertisement banners from 3.8% to 4.2%
- Leveraged transfer learning using pre-trained VGG-16 and proposed using soft-NDCG ranking loss
- Presented analysis and explanations for model results in an intra-company conference

## SELECTED PROJECTS

**Job Matching Web Application Development, ManbaseHK**

May 2020 - Aug 2020

- Built backend algorithms and designed UI/UX of a web application in Flask/JS for the startup

**Eyeglasses Reflection Removal, HKUST**

Jun 2019 - Oct 2019

- Formed a dataset of human faces with/without eye-glasses with labeled eyeglasses areas
- Developed a fully convolutional network to locate eye-glasses with 68 facial landmarks
- Designed a cycle-GAN model to mark pixels of partially reflected areas of eyeglasses

**Foreground Removal and Background Inpainting on Nature Scene, HKUST**

Jan 2019 - May 2019

- Achieved realistic background inpainting with an average PSNR of 22 on nature scene images
- Designed a coarse-to-refine WGAN-GP using partial convolution with perception and style loss
- Produced GUI and implemented multi-processing backend for concurrent computing and IO
- Assigned and managed tasks; maintains good communication between team and supervisors

**Grapheme-to-phoneme Prediction Under Low-resourced Environment, HKUST**

Sep 2018 - Dec 2018

- Increased the BLEU score of sequence-to-sequence model from 0.367 to 0.425
- Proposed skip-gram embedding to improve and defined sequence loss for model optimization

**LINE Chatbot Diet Assistant, HKUST**

Sep 2017 - Nov 2017

- Implemented an interactive system in Java to numerous user requests via parallel processing
- Managed progress with Agile with regular meetings and communication with teammates
- Presented features and highlights to an hundred-people class and launched chatbot on LINE

## SKILLS

**Programming Languages:** C/C++, Java, Python, R, MySQL, JavaScript, PHP, HTML(Jinja), MATLAB

**Library:** OpenCV, OpenGL, Qt, Caffe, Numpy, Scipy, Tensorflow, Pytorch, Keras, Scikit-learn, Selenium

**Other Computer Skills:** Git, Google Cloud, NAVER Smart Machine Learning Platform (NSML), Latex, Linux