LIANG-YU (CHARLES) CHEN

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Education

Columbia University in the City of New York *Sep 2020 - Dec 2021 (Expected)*
M.S. in Computer Science

The Hong Kong University of Science and Technology (HKUST) *Sep 2015 - Aug 2019*
B.E. in Computer Science, First Honors Graduate (GPA : 3.65)
Ceremony Honoring Students' Academic Excellence Awardee
Four-time Dean's List Awardee

Purdue University *Jan 2018 - May 2018*
B.S. in Computer Science (Exchange Student)

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 *Oct 2019 - Jul 2020*
Engineering Associate *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 *Jul 2018 - Sep 2018*
Research Intern *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