

Jingyuan Liu

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EDUCATION

Harvard University M.S. in Data Science

Cambridge, MA
Sep 2019 - Dec 2020

- Academics: GPA: 4.0/4.0 Cross-registration at Massachusetts Institute of Technology, GPA: 5.0/5.0
- Core Course: Introduction to Machine Learning (MIT), Data Science, Systems Development for Computational Science, Generalized Linear Model, Advanced Natural Language Processing (MIT)

Fudan University B.S. in Computer Science

Shanghai, China
Sep 2015 - Jun 2019

- Academics: GPA: 3.57/4.0 Ranking: 6/118
- Core Course: Data Structure, Digital Image Processing, Operating Systems, Software Engineering, Algorithm Design and Analysis, Probability and Mathematical Statistics, Computer Principles

PUBLICATION

Jingyuan Liu, Hong Lu. Deep Fashion Analysis with Feature Map Upsampling and Landmark-driven Attention. In Proceedings of **ECCV workshop 2018**. [[paper](#)] [[code](#)]

Xinyao Nie, Hong Lu, Zijian Wang, **Jingyuan Liu**, Zehua Guo. Weakly Supervised Image Retrieval via Coarse-scale Feature Fusion and Multi-level Attention Blocks. In Proceedings of **ICMR 2019**. [[paper](#)] [[code](#)]

Jingyuan Liu, Simon Chen, Brian Price, Xin Lu, Calista Chandler, He Zhang. Semantic-Aware auto white balance. **US Patent**. P11299-US

Jingyuan Liu, Jimei Yang, Qing Liu, Simon Chen, Yuhong Wu. Mobile-friendly transformer-based portrait segmentation. **US Patent**.

Jingyuan Liu, Hong Lu. A novel algorithm for color matching evaluation based on clothing replacement. **China Patent**. Application No. 201711245001.2, Publication No. 2017120100910750

PROFESSIONAL EXPERIENCE

Adobe

Machine Learning Engineer, Lightroom CoreML Team

San Jose, CA
Feb 2021 - current

◦ Mobile-friendly portrait semantic segmentation

- Developed a mobile-friendly transformer-based model with model size smaller than 7MB, inference time less than 100ms with desirable IOU accuracy, which ships in all Lightroom platforms and Adobe Research Statdust in 2022 for teeth whitening, skin smoothing etc.
- Designed two segmentation heads, one of it serves as refinement stages to ensure the accuracy for small parts like eye, eyeball and reduced memory usage by lower embedding dimension and using accumulated sum inside the head
- Converted the pytorch model to Coreml v4, Coreml v5, Onnx in fp32 and fp16 for integration

◦ Semantic-aware auto white balance

- Proposed a content-aware AWB algorithm which is able to set global WB given priority to skin colors for both raw-RGB and sRGB images, and are flexible to personalize or extend to other objects like plants, sky
- Lead AWB dataset collection on portrait image and wrote scripts for ground truth annotation.

Adobe

Machine Learning Intern, Mentor: Jimei Yang, Simon Chen

San Jose, CA
May 2020 - Aug 2020

- Developed the pipeline including data processing, model training, evaluation, visualization and model conversion
- Improved the caffe model based on MobileNet and Openpose for human portrait segmentation, shipped in Lightroom for red eye correction

Sensetime

Computer Vision Research Intern, Autopilot Detection Team

Beijing, China

Jan 2019 - May 2019

- Improved performance on falling object detection by concatenating depth and optical flow images which better represent the movement of pair-wise images
- Trained models for searching scarce traffic items (cone, pole, etc.) for more efficient data annotation

eBay

Software Development Intern, Infrastructure Engineering and Site Operations

Shanghai, China

Apr 2018 - Dec 2018

- Developed a Chat-bot based on LSTM to classify customers' requests into relevant departments
- Participated in developing Unicorn, a platform helping developers automatically build & deploy code, and manage the computing resource

RESEARCH EXPERIENCE

Harvard University , EconCS Lab

Research Assistant, Advisor: Prof. David Parkes

Cambridge, MA

Jan 2020 - Jan 2021

- Mined the information in emails by BERT and reduced the dimensions by PCA and Autoencoder to predict the users' willing of subscription
- Designed principles and regular expression for price extraction with different items and currency from emails to get the price negotiation process

University of Pennsylvania, GRASP Lab

Research Assistant, Teaching assistant, Advisor: Prof. Jianbo Shi

Philadelphia, PA

Jul 2018 - Aug 2018

- Analysed embeddings of fashion items, where parameters were greatly reduced by constructing different embedding spaces in a single-type manner rather than learning metrics for pairs of types
- Carried out experiments on Virtual Try-on task by employing an encoder-decoder network to generate a synthetic clothed person in the same pose wearing the target clothing

University of Fudan, Machine Vision Lab

Research Assistant, Advisor: Prof. Hong Lu

Shanghai, China

Feb 2017 - Jun 2019

- Proposed an end-to-end network for fashion analysis to co-train three tasks: landmark localization, category classification and attribute prediction, via improving the resolution of heatmaps through upsampling to generate more accurate feature maps
- Introduced a novel attention mechanism with the references of landmark heatmaps, which avoided the hard deterministic constraints in feature selection and helped the model achieve state-of-the-art results

University of Fudan, NLP Lab

Research Assistant, Advisor: Prof. Xipeng Qiu

Shanghai, China

- Addressed sentence classification for Film Review using CNNs, fine-tuned on pre-trained word vectors
- Participated in developing the first version v0.1.0 of FastNLP [[code](#)] [[doc](#)]

HONORS & SERVICES

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| Committee member of Adobe Fellowship and Adobe Women-in-technology Scholarship | 2021, 2022 |
| CVPR reviewer | 2021 |
| Teaching assistant for Adobe MAX lab sessions | Oct 2022 |
| Outstanding graduate of Shanghai, Outstanding graduate of Fudan University | Jun 2019 |
| Teaching assistant for Upenn AI summer camp | July 2018 |
| Tung OOCL Scholarship for outstanding students | Nov 2016 |

SKILLS

Programming: Python, C/C++, R, SQL, Shell, VBA, HTML/CSS, JavaScript

Frameworks/ Packages: PyTorch, Keras; NumPy, Pandas, Sklearn, NLTK, OpenCV, mmseg, MMCV

Others: Unix/Linux, AWS, Git, Docker, Flask, QT, Blender