

Chang Gao

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EDUCATION

Carnegie Mellon University

Master of Science in Computer Vision

Pittsburg, PA

08/2018 - 12/2019

- Selected Coursework: Computer Vision, Machine Learning, Math Fundamentals for Robotics

The University of Hong Kong

B.Eng. in Computer Science (First Class Honors), Minor in Mathematics; GPA: 3.82/4.30

Hong Kong

09/2014 - 06/2018

- Two terms of exchange study at UC Irvine with a GPA of 4.15/4.00
- Awards: 4th Place in ACM Hong Kong (Team Leader, 2016), Honorable Mention in MCM (Team Leader, 2016)

PROFESSIONAL EXPERIENCE

Indeed

Software Engineering Intern

Tokyo, Japan

06/2017 - 08/2017

- Developed a Python framework to estimate the effectiveness of new bidding algorithms
- Designed multiple machine learning and time series analysis models using SciPy and sklearn to analyze historical bidding data and predict the influences of new bidding algorithms on future metrics
- Reduced raw testing time of new bidding algorithms from around two weeks to several minutes

Guangdong Flying Enterprise Internet Technology

Software Engineering Intern

Zhuhai, China

06/2016 - 07/2016

- Customized and maintained office automation systems for large corporate offices in Java EE
- Solved 7 customer cases in only two months, with customizations on servers, databases, websites, and/or apps

RESEARCH EXPERIENCE

Real-time Coherent Video Style Transfer Network

Thesis, The University of Hong Kong

Hong Kong

09/2017 - 04/2018

- Designed a new feed-forward deep learning pipeline for video style transfer in PyTorch, which can generate temporally consistent stylized videos while maintaining artistic styles perceptually similar to the style target
- Overall inference speed achieved 235 frames per second (FPS) on a single modern graphics card

AI for Super Mario Playing in Minecraft

Research Project, UC Irvine

Irvine, CA

04/2017 - 06/2017

- Co-designed a reinforcement learning maze solver with Minecraft Malmo API and TensorFlow, which utilizes Inception-ResNet blocks for feature extraction and ConvLSTMs for spatial feature map registration
- Created a Super-Mario-like maze generator with physics engine for actual game playing and AI testing

Rapid Regional Tsunami Damage Recognition Using Deep Neural Networks

Research Assistant, UC Irvine

Irvine, CA

02/2017 - 04/2017

- Developed a deep learning framework for tsunami damage recognition using remote sensing data
- Investigated traits and feature maps of post-event SAR imagery using Caffe and MATLAB
- Improved speed and accuracy of SAR imagery recognition with wide residual networks

Deep Learning Based Sketching System for 3D Face and Caricature Modeling

Research Assistant, The University of Hong Kong

Hong Kong

08/2016 - 01/2017

- Developed a deep-learning-based sketching system for 3D face modeling using Caffe, Qt, OpenCV, and OpenGL
- Greatly reduced time and effort creating 3D face models for graphic designers
- Co-designed a convolutional neural network (CNN) with bilinear encoding for inferring 3D face models from 2D sketches, which achieved state-of-the-art inference results with a mean error of 2.04mm

PUBLICATIONS

1. C. Gao et al, "ReCoNet: Real-time Coherent Video Style Transfer Network", arXiv preprint 1807.01197, 2018
2. Y. Bai and C. Gao et al, "A Framework of Rapid Regional Tsunami Damage Recognition from Post-event TerraSAR-X Imagery Using Deep Neural Networks", IEEE Geoscience and Remote Sensing Letters, Vol. 15, No. 1, Page 43-47, 2018
3. X. Han, C. Gao, and Y. Yu, "DeepSketch2Face: A Deep Learning Based Sketching System for 3D Face and Caricature Modeling", ACM Transactions on Graphics (SIGGRAPH 2017), Vol. 36, No. 4, Article 126, 2017

SKILLS

Coding: Python, C/C++, JavaScript, Java, MATLAB, HTML, SQL, Haskell (ranked in proficiency)

Toolkits: PyTorch, Caffe, Keras, TensorFlow, sklearn; OpenGL, OpenCV; Qt; Django, Node.js; MySQL, MongoDB; Git