

Chang Gao

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EDUCATION

Carnegie Mellon University

Pittsburg, PA

Master of Science in Computer Vision, The Robotics Institute; GPA: 4.11/4.33

08/2018 - 12/2019

- Selected Coursework: Computer Vision, Machine Learning, Visual Learning and Recognition, Robot SLAM

The University of Hong Kong

Hong Kong

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

09/2014 - 06/2018

- Awards: 4th Place in ACM Hong Kong (Team Leader, 2016), Honorable Mention in MCM (Team Leader, 2016)

PROFESSIONAL EXPERIENCE

Waymo (Google Self-driving Car)

Mountain View, CA

Computer Vision & Machine Learning Research Intern

05/2019 - 08/2019

- Designed and implemented deep learning models for self-driving car perception
- Focused on LiDAR data analysis with semi-supervised learning on ill-posed problems
- Improved robustness and correctness of a part of the perception pipeline

Near Earth Autonomy

Pittsburgh, PA

Computer Vision Engineer (Capstone Project with CMU)

01/2019 - 12/2019

- Building computer vision models for various property inspection problems using camera and 3D LiDAR data
- Designed and developed 3D semantic segmentation models for power line inspection
- Designing computer vision models for aircraft condition inspection

Indeed

Tokyo, Japan

Software Engineering Intern

06/2017 - 08/2017

- Developed a Python framework to evaluate new bidding algorithms for search engine marketing (SEM)
- Designed and built multiple machine learning models to analyze historical data and predict future bidding metrics
- Reduced raw testing time of new bidding algorithms from around two weeks to several minutes

Flyrise.cn

Zhuhai, China

Software Engineering Intern

06/2016 - 07/2016

- Customized and maintained front-end and back-end office automation systems for large offices in Java EE

RESEARCH EXPERIENCE

Real-time Coherent Video Style Transfer Network

Hong Kong

Thesis, The University of Hong Kong

09/2017 - 04/2018

- Designed an optical-flow-based 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

Rapid Regional Tsunami Damage Recognition Using Deep Neural Networks

Irvine, CA

Undergraduate Research Assistant, UC Irvine

02/2017 - 04/2017

- Designed and developed a deep learning framework for tsunami damage recognition using remote sensing imagery
- Improved speed and accuracy of SAR imagery recognition with wide residual networks

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

Hong Kong

Undergraduate Research Assistant, The University of Hong Kong

08/2016 - 01/2017

- Developed a deep-learning-based sketching system for 3D face modeling using Caffe, Qt, OpenCV, and OpenGL
- Co-designed a convolutional neural network 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", **ACCV 2018 (Best Application Paper)**
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 (Proceedings of SIGGRAPH 2017)**, Vol. 36, No. 4, Article 126, 2017

SKILLS

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

Toolkits: TensorFlow, PyTorch, Caffe, sklearn; OpenGL, OpenCV, Open3D; Qt; Django, Node.js; MySQL, MongoDB; Git