

Fangda Han

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EDUCATION

RUTGERS UNIVERSITY

PhD of Computer Science (GPA 3.86) | NJ, US | 2016 - present

Computer vision & machine learning

TSINGHUA UNIVERSITY

Master of Science (GPA 3.75) | Beijing, CN | 2013 - 2016

Engineering Physics, mainly on computed tomography hardware and algorithm design

Bachelor of Science (GPA 3.70) | Beijing, CN | 2009 - 2013

Engineering Physics, mainly on physics

EXPERIENCE

RUTGERS UNIVERSITY

Teaching Assistant | NJ, US | Sep 2016 - present

Take recitations and grading: Natural Language, Software Methodology, Data Structure, Information & Data Management, Discrete Math, Big Data Analytics and Text Mining, Distributed Systems

BASF CORPORATION

Data Scientist | NJ, US | May 2018 - Oct 2018

Use reinforcement learning to optimize scheduling process, the algorithm learns to make plans for multiple machines, let them cooperate well to meet customer demands.

GRANPECT LTD

Research Assistant | Beijing, CN | Oct 2012 - Jun 2013

Design an image processing application for industrial tomography image adjustment and inspection on iOS platform.

PROJECT

Meal Image Synthesis

Project Leader | Jun 2018 - now

Design two encoders to embed recipe information (language) and meal image (vision) into a common space and then apply generative neural network to synthesize meal image given the recipe information.

SKETCH-BASED VIDEO FACE EDITING

Main Developer | Oct 2016 – Mar 2017

Develop a workflow to edit face using human-made stroke and propagate it through the video including landmark detection, face morphing, texture mapping.

COMPUTED TOMOGRAPHY SYSTEM FOR AERO ENGINE DETECTION

Project Leader | Aug 2014 – Jun 2016

Develop a dynamic CT system, using the engine's rotation to acquire projection data and reconstruct tomography images to make industrial flaw detection.

SKETCH TO EMOTIONAL FACE PHOTO USING GENERATIVE ADVERSARIAL NETWORKS

Main Developer | Oct 2017 – Dec 2017

Develop two frameworks to generate emotional face photos from neutral face sketch using generative adversarial networks.

SKILL

Python
Matlab
Java
C/C++
Javascript/HTML/CSS
Objective-C/Swift
Unity3D
PyTorch/TensorFlow/Keras
Shell
Git

INTEREST

Machine Learning
Big Data
Computer Vision
Natural Language
Deep Learning
Data Science
Software Development
Web Design

LANGUAGE

Chinese
English
Spanish

PORTLAND CITY CRIME PREDICTION

Project Leader | Mar 2017 – May 2017

Develop supervised machine learning algorithms including linear model, gaussian process and RNN model to predict crime hotspots of Portland.

SOCIAL NETWORK APP (iOS)

Project Leader & Main Developer | Dec 2016 – Dec 2017

Design a social network app for couples that uses psychology to help couples record daily life and build relationships.

CT IMAGE INSPECTION APP (iOS)

Software Developer | Jun 2013 – Aug 2014

Design an image processing app on iPad which helps quality assess inspectors to check tomography image remotely.

PUBLICATION

- [1] Han, F., Guerrero, R., & Pavlovic, V. (2019). The Art of Food: Meal Image Synthesis from Ingredients. arXiv preprint arXiv:1905.13149.
- [2] Zhao, L., Han, F., Peng, X., Zhang, X., Kapadia, M., Pavlovic, V., & Metaxas, D. N. (2019). Cartoonish sketch-based face editing in videos using identity deformation transfer. Computers & Graphics, 79, 58-68.
- [3] Xiao, Y., Han, F., & Chen, Z. (2017). Correct block artifacts by differential projection for a dynamic computed tomography system. Measurement Science and Technology, 28(9), 094001.
- [4] Han, F., Xiao, Y., & Chang, M. (2015, October). A block-eliminating method by limited-view scan in a dynamic CT system for running aero-engine. In Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC), 2015 IEEE (pp. 1-5). IEEE.
- [5] Chang, M., Xiao, Y., Chen, Z., Han, F., & YangDai, T. Y. (2015, October). Improve spatial resolution by projection restoration for CT reconstruction. In Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC), 2015 IEEE (pp. 1-4). IEEE.