Fangda Han

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WORK EXPERIENCE

BASF CORPORATION
Data Scientist | NJ, US | May 2018 - Sep 2018
A reinforcement learning algorithm for scheduling optimization, the neural network model learns to make plans for multiple machines to cooperate and fulfill the demands from customers

GRANPECT LTD
Software Engineer | Beijing, CN | Oct 2012 - Jun 2013
An image application on iOS for industrial tomography image inspection

EDUCATION

RUTGERS UNIVERSITY
Ph.D 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 algorithms
Bachelor of Science (GPA 3.70) | Beijing, CN | 2009 - 2013
Engineering Physics, mainly on physics

SKILL

Python/PyTorch/TensorFlow/Numpy/Matplotlib/Pandas, Matlab, Java, C/C++, Javascript/HTML/CSS, OBjective-C/Swift, Shell, Git

BACKGROUND

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

PROJECT

MEAL IMAGE SYNTHESIS
Project Leader & Main Developer | NJ, US | Jun 2018 - now
A framework that utilizes neural networks to embed recipe information (natural language) and meal image (vision) into a shared space, then applies generative adversarial network to synthesize meal image given the recipe information

SKETCH-BASED VIDEO FACE EDITING
Main Developer | NJ, US | Oct 2016 – Mar 2017
A workflow that utilizes landmark detection, face morphing and texture mapping to edit face using human-made stroke and propagates the edited face throughout the video

SKETCH TO EMOTIONAL FACE PHOTO USING GENERATIVE ADVERSARIAL NETWORKS
Main Developer | NJ, US | Oct 2017 – Dec 2017
An image style transfer framework from neutral face sketch to emotional face photos using generative adversarial networks

PORTLAND CITY CRIME PREDICTION
Project Leader | NJ, US | Mar 2017 – May 2017
Supervised machine learning algorithms including linear model, gaussian process and RNN model to predict crime hotspots of Portland

COMPUTED TOMOGRAPHY SYSTEM FOR AERO ENGINE DETECTION
Project Leader | NJ, US | Aug 2014 – Jun 2016

A dynamic CT system that utilizes the engine's rotation to acquire projection data and reconstructs tomography images to detect industrial defect

SOCIAL NETWORK APPLICATION (iOS)
Project Leader & Main Developer | Beijing, CN | Dec 2016 – Dec 2017

A social network application for couples that utilizes psychology to help couples develop happy and healthy relationships

CT IMAGE INSPECTION APPLICATION (iOS)
Software Developer | Beijing,CN | Jun 2013 – Aug 2014

An image inspection application that helps inspectors to check tomography image quality

PUBLICATION

[1] **F. Han**, R. Guerrero, and V. Pavlovic, "The Art of Food: Meal **Image Synthesis** from Ingredients," CoRR, vol. abs/1905.13149, 2019.

[2] **F. Han**, R. Guerrero, and V. Pavlovic, "VirtualCook: Cross-modal **Synthesis of Food Images** from Ingredients," in Int'l Joint Conference on Artificial Intelligence IJCNN, Workshop on AI and Food, Macao, China, 2019.

[3] L. Zhao, **F. Han**, X. Peng, X. Zhang, M. Kapadia, V. Pavlovic, and D. N. Metaxas, "Cartoonish sketch-based **face editing in videos** using identity deformation transfer," Computers & Graphics, vol. 79, p. 58–68, 2019.

[4] 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.

[5] **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.

[6] 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.

TEACHING EXPERIENCE

RUTGERS UNIVERSITY
Teaching Assistant | NJ, US | Sep 2016 - present

Natural Language, Software Methodology, Data Structure, Information & Data Management, Discrete Math, Big Data Analytics and Text Mining, Distributed Systems, Internet Technology