

# Yongxu JIN

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## RESEARCH INTERESTS

*Research Interests* **Computer Graphics, Computer Vision, Data Mining**

## EDUCATION BACKGROUND

*Sep.2015-Present* **Shanghai Jiao Tong University**  
*(Expected June. 2019)* Bachelor of Science, Major in **Software Engineering**  
Overall GPA: **3.73/4.3 (3.63/4.0, 88/100)** Major GPA: **3.81/4.0, 90/100**  
**TOEFL:** 104 (R29 L28 S23 W24) **GRE:** 328 (V158 Q170 AW 3.5)

## SKILLSET

*Languages* Python, JAVA, C/C++, MATLAB, HTML, CSS, JavaScript, SQL, UML  
*Data Mining* Numpy, Pandas, NLTK, Sklearn, Keras  
*Graphics / Vision* OpenGL, GLSL, Unity, OpenCV, Caffe, Tensorflow

## RESEARCH EXPERIENCES

*Sep.2017-Jun.2018* **Cartoon Image Dataset Collection and Classification using customized DNN**  
*Advisor: Dr. Xubo YANG, Digital Art Lab of Shanghai Jiao Tong University*

- Obtained the basal dataset of the cartoon images from the web crawler and expanded the dataset with three methods:
  - Wrote NPR shader on the 3D models got online and obtained the snapshots from various angles
  - Used a special algorithm to give cartoons the texture of pencils and crayons and collected image data in different styles
  - Converted the 2D image to 3D via MagicToon (AR application) and collected all snapshots
- Proposed a neural network system optimize the cartoon images with three methods:
  - Inputs Unified Stylization(IUS)-- unified stylistic of the input images to reduce the complexity of training
  - Feature Inserted Network(FIN)-- inserted special features of images into neural networks to improve accuracy
  - Network Plus Network(NPN)-- used multiple neural networks for concurrent training

*Skills Involved* **Python/MATLAB, MagicToon, Unity Shader, OpenCV, Tensorflow**

*Mar.2017-Mar.2018* **Simultaneous Visual Recovery of 3D Human Pose and Shape: Technique and Applications**  
*Group Leader* *Advisor: Dr. Xu ZHAO, VisionLab of Shanghai Jiao Tong University*

- Systematically studied mechanism of Openpose and SMPLify, took charge of the overall task arrangement, and conducted open source code writing and testing
- Extracted a 2D human pose skeleton from an image, and fit a 3D human model with shape and pose on the 2D skeleton
- Automatically measured the height and BWH of a person from an image, based on a plotting scale in the image

Skills Involved    **Python/C++, Openpose, SMPLify, Caffe**

Sep.2017-Nov.2017    **Morphological Classification of Amazon Rainforest via Satellite Data**

*Advisor: Dr. Mike TAMIR, School of Information, UC Berkeley*

- Conducted data pre-processing, including haze removal, data augmentation
- Implemented data set extension, image contrast optimization and dimensionality reduction
- Compared the classification outcomes processed by Shallow Neural Network and VGG-16 Network, and chose VGG-16 Network as the main classification method
- Improved the VGG-16 Network details and achieved the F2 score of 0.90254 (World Highest 0.93317)

Skills Involved    **Python, PCA, Deep Neural Network, OpenCV, Keras**

Aug.2017    **Text Data Mining and Analysis of Enron Corporation Emails**

*Advisor: Dr. Ning LI, Institute of Computing Technology, Chinese Academy of Sciences*

- Managed the email preliminary analysis, XML Data parse, title/ body abstraction
- Conducted the word splitting, lexical reduction of email title/body parts and converted all particples to the TF-IDF vectors
- Realized the vectors clustering via LDA and K-means
- Plotted the relationship networks of senders and recipients via Gephi based on the email contents and clustering results

Skills Involved    **Python/JAVA, TF-IDF, LDA, K-means, NLTK, Sklearn, Gephi**

## **PUBLICATIONS**

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Aug.2018    Zhou,Yanqing; **Jin,Yongxu**; Luo,Anqi; Chan,Szeyu; Xiao,Xiangyun; Yang,Xubo. **ToonNet: A cartoon image dataset and a DNN-based semantic classification system**, *Working paper*

## **INTERNSHIP**

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Dec.2017-Feb.2018    **Shanghai Cloudpense Co., Ltd.**

*Computer Vision Engineer Intern, R&D Department*

- Took charge of the invoice picture processing and OCR recognition, and converted images of the invoices into editable texts

Skills Involved    **JAVA, OpenCV, OCR**

## **AWARDS**

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Oct.2017    • **National Second Prize** for National College Students Software Innovation Contest

Oct.2017    • Huawei Scholarship (**Top 5**)

Sep.2017    • Scholarship for Academic Excellence-**Class B**, SJTU

Jul.2017    • **4<sup>th</sup> Place** of HackXSJTU NVIDIA Intelligence Car Innovations

Mar.2017    • Outstanding Students Award, SJTU

## **EXTRA-CURRICULAR ACTIVITIES**

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Sep.2015-Jan.2018    Student Union of School of Electronic, Information and Electrical Engineering, SJTU (**Leader of Promotions Department**)

Mar.2017-Jul.2017    Second Affiliated High School of Shanghai Jiao Tong University (**Class Counselor, 9th Grade**)

Nov.2015, Nov.2016    Shanghai International Marathon (**Volunteer**)