

Ru Wang

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Education

Shanghai Jiao Tong University (SJTU)

Shanghai, China

B.S. IN INFORMATION ENGINEERING

Sep. 2015 – Jun. 2019 (Expected)

- Major in Information Engineering, and Minor in Computer Science.
- Focus on machine learning, digital multimedia, and computer networks.
- Major GPA: **88.12/100**

Internships

Shanghai Clobotics Technology Co.,Ltd

Shanghai, China

SOFTWARE ENGINEERING INTERN

Nov. 2018 – PRESENT

Currently working on the development of 'Sloth', a novel computer vision-based system that can recognize the drinks in a beverage cooler and analyze the sales and user behavior.

- Developed a software for labeling task creation, automatic model updating and deployment.
- Developed an Android application that can help users install and maintain the system.

Research Projects

GAN-based On-Shelf Product Image Generation for Product Classification

Clobotics Co.,Ltd, Shanghai

ADVISOR: CONG YANG, WEIYAO LIN, R&D TEAM

Dec. 2018 – PRESENT

- Built a dataset of over 50k real product (beverage) images with a self-built turntable and cameras from 5 different angles.
- Trained a Cycle-GAN based model that can generate fake on-shelf product images with the images from our dataset as input.
- Result: The generated fake on-shelf product images boosted the recall of our product classification model by 10%.

ThumbTrak

Cornell University, Ithaca, NY

ADVISOR: PROF. CHENG ZHANG, INFORMATION SCIENCE

Jul. 2018 – Jan. 2019

- Developed an angle-based method to reconstruct thumb's trajectory on fingers through perspective transformation.
- Co-designed form factors to mount sensors on user's hand and enhance user's experience.
- Developed a testing system with drawing task, Fitts' Law task and Text entry task for user study.

Approximate Random Dropout for DNN training acceleration in GPGPU

SJTU, Shanghai

ADVISOR: PROF. LI JIANG, ADVANCED COMPUTER ARCHITECTURE LAB (ACA)

Dec. 2017 – May. 2018

- Developed a time-efficient dropout algorithm to reduce useless computation in matrix multiplication.
- Implemented Approximate Random Dropout algorithm in fully-connected layer and convolution layer with Caffe.
- Result: Fully-connected layer with our dropout method is 2X faster than original, with acceptable accuracy drop.

Virtual Dressing System

SJTU, Shanghai

ADVISOR: PROF. WEIYAO LIN, INSTITUTE OF MEDIA, INFORMATION AND NETWORK (M.I.N)

May. 2017 – Sep. 2017

- Integrated depth information (from Kinect V2) with 2D pose estimation from OpenPose to refine 3D skeleton.
- Developed an efficient algorithm to find most realistic depth estimation for occluded body part.
- Developed 3D pose collection system and data annotation system with Unity3D, and built an RGBD human pose dataset.

RGBD-based Single Person 3D Pose Estimation

SJTU, Shanghai

ADVISOR: PROF. WEIYAO LIN, INSTITUTE OF MEDIA, INFORMATION AND NETWORK (M.I.N)

May. 2018 - PRESENT

- Developed a fast, single-person 2D pose estimator based on state-of-the-art methods using our dataset.
- Working on a novel 3D pose estimator using voxelized depth frames and 3D-convolution.

Publications

Approximate Random Dropout for DNN training acceleration in GPGPU

ZHUORAN SONG, **RU WANG**, DONGYU RU, ZHENGHAO PENG, HONGRU HUANG, HAI ZHAO, XIAOYAO LIANG, LI JIANG

Accepted to DATE (Design, Automation and Test in Europe) 2019.

Extracurricular Activities

SJTU GOA (Go-Abroad Association)

Shanghai, China

DESIGN LEAD

Sep. 2017 - May. 2018

GOA is an official association in SJTU, dedicating in providing support to students desiring to study abroad.

- Responsible for posters and paintings.
- Publicized recent activities such as lectures and workshops related to graduate applications and career planning.

BTB x POP | Dance Installation Art

Shanghai, China

VOLUNTEER

Dec. 2017

The dance installation is created and performed by Fania Grigoriou, Chris Jäger, Garth Johnson, and Ingrid Kapteyn, produced by Beyond the Bund.

- Helped arrange stage and operate devices.

chi K11 Art Space

Shanghai, China

VOLUNTEER

Dec. 2016

The art space holds regular art exhibitions, various forums for artists and unexpected opportunities for general public to get to know them.

- Guided audience and explained artworks.

Skills

Programming Languages Python, C/C++, C#, JAVA, Lua, MATLAB

Practical Skills \LaTeX , HTML/CSS, jekyll, Git

Deep Learning Frameworks PyTorch, Caffe, Torch, TensorFlow

Design Tookits Adobe Illustrator, Photoshop, Rhino