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 digital multimedia, machine learning and computer networks
- Major GPA: **88.12/100**

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.

Research Projects

ThumbTrak
Cornell University, Ithaca, NY

Advisor: Prof. Cheng Zhang,   Information Science
Jul. 2018 - PRESENT

- Developed 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.

RNN-based Driver's Cognitive Workload Analysis
SJTU, Shanghai

Advisor: Dr. Na Ruan
Mar. 2018 – PRESENT

- Built dataset with unified workload rating by clustering individual data including bio-information and self-ratings.
- Developed an RNN-based method to model sequential driving workload.

Internships

Clobotics   *Shanghai, China*

Sᴏꜰᴛᴡᴀʀᴇ Eɴɢɪɴᴇᴇʀ Iɴᴛᴇʀɴ   *Nov. 2018 – PRESENT*

- Currently working on the development of a novel computer vision-based system that can recognize the drinks in a beverage cooler and analyze the sales and user behavior. My job is to optimize the performance and user experience of the system.

Honors & Awards

Academic Progress Scholarship (Nov. 2017)   *Shanghai, China*

Extracurricular Activities

SJTU GOA (Go-Abroad Association)   *Shanghai, China*

Dɪʀᴇᴄᴛᴏʀ ᴏꜰ Pᴜʙʟɪᴄɪᴛʏ Dᴇᴘᴀʀᴛᴍᴇɴᴛ   *Sep. 2017 - May. 2018*

GOA is an official association in SJTU, dedicating in providing support to students desiring to study abroad.
- Responsible for producing 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*

Vᴏʟᴜɴᴛᴇᴇʀ   *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*

Vᴏʟᴜɴᴛᴇᴇʀ   *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