Qingguo Xu

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Work Experience

Pinscreen Inc. Dec 2017 - present

As a software engineer in Pinscreen, I did many projects, related to both research and engineering. More details are on my website.

- Mobile app development (iOS & Android)
- Unity rendering (server side & offline rendering)
- Setup auto scale function for server management on **Amazon Web Services (AWS)**
- Built up Pinscreen's **deep learning database**: 2D face images & landmarks for face tracking; 3D face geometries, textures, landmarks for better face fitting and texture prediction
- NormalizedAvatar Synthesis Using StyleGAN and Perceptual Refinement
- Generated Pinscreen's most **Deepfake** projects results, some released ones are on my website
- **WebRTC** streaming

University of Kentucky

I did some research work and developed several apps for different departments (labs) in University of Kentucky before graduation. For VFE (iOS) and eCROPS (iOS & Android), I developed the mobile apps, set up servers and databases all by myself. I implemented KTDID with C# and JTK with Matlab.

- **Master thesis**: 3D Body Tracking using Deep Learning
- **Mask-off**: Synthesizing Face Images in the Presence of Head-mounted Displays
- **Littlehelper**: Using Google Glass to Assist Individuals with Autism in Job Interviews
- **VFE** is short for Voice Function Exercise and it's an iOS app that help individuals with voice disorders do exercises at home and improve their voice functions. This app is used by patients in UK clinical voice center.
- **eCROPS** is short for electrical Cost-effective Roll-Over Protective Structures, which is an app that teaches high school students about truck safety. This app is used by thousands of students in 20+ high schools in 6 states.
- **KTDID** is a windows software that used by Kentucky Transportation Center (KTC)
- **JFK** is a windows software that used by Department of Physiology, University of Kentucky

Skills

- Programming languages: C/C++, Python, Java, Matlab, NodeJS, Objective-C, C#, PHP, HTML/CSS
- 3D softwares: Unity, Unreal, Maya, Wrap3
- Computer vision
- Deep learning
- Amazon Web Service (AWS)
- Mobile app development (iOS & Android)
- WebRTC streaming
- Nuke vfx composition
- Web development

Education

Master, Computer Science — Sep 2015 - May 2017
University of Kentucky
- Thesis Topic: 3D Body Tracking using Deep Learning
- Advisors: Ruigang Yang

PEIK program, Electrical and Computer Engineering — Sep 2013 - May 2015
University of Kentucky
- Power and Energy Institute of Kentucky (PEIK) certification

Visiting student — May 2012 - May 2013
Institute of Computing Technology Chinese Academy of Sciences
- Advisors: Jianfeng Zhan
- Topic: Software aging

Master candidate, Computer Science — Sep 2011 - 2012 May
Xi'an Jiaotong University
- Advisors: Yong Qi
- Topic: Software aging

Bachelor, Computer Science — Sep 2007 - May 2011
Xi'an Jiaotong University

AWARDS

Teaching Assistant — Sep 2016 - Dec 2016
Kentucky Opportunity Fellowship — July 2015 - June 2016
Teaching Assistant — Sep 2014 - June 2015
PEIK Tuition Scholarship — Sep 2013 - June 2014

Publications

1. Huiwen Luo, Koki Nagano, Hanwei Kung, **Qingguo Xu**, Zejian Wang et al. "Normalized Avatar Synthesis Using StyleGAN and Perceptual Refinement" 2021 IEEE Conference on Computer Vision and Pattern Recognition (CVPR).
2. Yajie Zhao, **Qingguo Xu**, Weikai Chen, Chao Du, Jun Xing, Xinyu Huang, Ruigang Yang. "Mask-off: Synthesizing Face Images in the Presence of Head-mounted Displays." 2019 IEEE Conference on Virtual Reality and 3D User Interfaces (VR).
3. **Qingguo Xu**, Sen-ching Samson Cheung, et al. "Littlehelper: An Augmented Reality Glass Application to Assist Individuals with Autism in Job Interview". Asia Pacific Signal and Information Processing Association (APSIPA), December 2015
4. Pengfei Zheng, **Qingguo Xu**, Yong Qi. "An Advanced Methodology for Measuring and characterizing Software Aging". International Workshop on Software Aging and Rejuvenation (WoSAR), 2012