PERSONAL INFORMATION

Jiang Dunchun

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WORK EXPERIENCE

01/07/2018 – Present

Research Engineer

Wuhan Maker Sci-Tech Co.,Ltd, wuhan (china)

Projects:

- **A Mixed Reality Application about Digital Twins** (*4/2019 - Present*)

  Role: Project Leader

  Details: Based on Hololens and Unity3D, this MR application could monitor and control a PLC system: showing the real-time data (tempreture, humidity, CO2 concentration) from the sensors and controlling the devices (lamps, fans, pumps) in virtual world. This application has varieties of interaction ways: voice, gesture, and gaze.

- **Data Pool Service of IoT** (*12/2018 - 4/2019*)

  Role: Project Leader

  Details: This service is an intermediation between physical space and virtual space which has three functions: acquiring real-time data from several types of data sources by standard protocols or customized communication ways, mapping these data sources with unique tags and opening a websocket server allowed the clients to get these data by unique tags, storing these real-time data with timestamps in history database.

- **Real-time Remote Rendering Framework Based on B/S Model** (*7/2018 - 12/2018*)

  Role: Main Participant

  Details: In this framework, the remote server is responsible for the rendering of 3D scene and send the image data to browser. The font-end presents these image data in canvas and send the interaction events back. I was responsible for two part of this project: (1) In order to simplify the two application messaging patterns between the server and browser, Remote Procedure Calls and Publisher & Subscriber, the Web Application Messaging Protocol is applied and refined in this framework. (2) A H.264 Encoder and Decoder were inserted in back-end and front-end respectively to ease the bandwidth pressure by using video streaming.

EDUCATION AND TRAINING

01/09/2015 – 30/06/2018

Master of Mechanical Engineering

Wuhan University of Technology, wuhan (China)

Projects:

- **Design and Research of Virtual Reality System for Dry Cement Production (Graduate Research)** (*12/2016 - 5/2018*)

  Advisor: Professor Wu Jingbing

  Details: This system presents the dry cement production process in the single channel active stereo projection environment, while a wireless controller tracked by an optical tracking system is used as the immersive interactive device. In order to ease the rendering pressure caused by massive mesh number in the virtual scene, some unnecessary geometric features of models built in SolidWorks are selected deleted by a self-developed plug-in.

- **A Virtual Reality Application of Flexibility Fabrication Technology**   (*5/2016 - 11/2016*)

  Role: Main Participant

  Details: This application presents Flexibility Fabrication Technology of Automotive Manufacturing in HTC VIVE. The simulation animation from DELMIA (a Siemens CAE Software) was extracted, then organized as key frame animation and played in the virtual scene. Because all mechanical models in this application were built in CATIA, a plug-in was developed to rewrite the model to the format engine supports to.

Awards:

- **"Third-class scholarship"**   (*2015, 2016*)

01/09/2011 – 30/06/2015	**Bachelor of Mineral Processing Engineering**

Wuhan University of Technology, wuhan (China)

Awards:

- **"Triple-A Student"** at School of Resources and Environmental Engineering   (*2012*)
- **"Third-class scholarship"**   (*2012*)

PERSONAL SKILLS

Mother tongue   Chinese

Foreign language(s)

Test	Listening	Reading	Writing	Speaking
English				
IELTS	7.0	7.5	6.0	5.5

Job-related skills   Proficient software design and development skills, especially by c#/c++.

Solid basic knowledge of Computer Graphics and IoT