Kai Shi

Email:shikai@toivan.com
Tel: (+86)13151577297
Github: https://github.com/sk911215

OBJECTIVE

To doing something related to AI, Computer Vision and Computer Graphics that can make full use of my knowledge, skill and energy.

SUMMARY

- Proficient in C/C++, OC coding. Strong object oriented design capability
- Deep knowledge of data structures, algorithms, TCP/IP, and operating systems
- Basic knowledge about machine learning, natural language processing
- Experience of facial detection and recognition. Experience of rendering related to AR.
- Graphics: OpenGL, Shader, Computer Architecture, GPU parallel OpenCL, Engine(Unity)
- Linux programming: Linux IPC, Linux Kernel, Multi-threading programming, Parallel programming, OpenMP
- Knowledge of functional programming Haskell
- Languages: C/C++, C#, OC, Python, GLSL, Haskell, SQL, LaTeX

EXPERIENCE

CEO & Founder - TOIVAN Tech Co.Ltd, China (Aug 2017 - Present)

- Main production is named TOIVAN Magic Mirror. It's not only the AR effects makeup mirror, but also the home automation. It can be accepted by Xiaomi's protocol and we are seeking cooperation with Xiaomi.
- Working on the algorithm of face expression. Creating algorithm to make the 3D human head model do the same expression as users. Handling face detecting algorithm and blendshape of 3D models.
- Writing some shaders make face more white and beatiful, eyes bigger and face smaller.
- Working as an iOS engineer sometimes.
- Main languages used are C++ and C#. Platform is Unity.
- TOIVAN Magic Mirror is rated as the excellent project by Jiangning District.

Algorithm Researcher(Part time) - Amazon, Shanghai, China (May 2017 - Present)

- Main duty is about some special AR effects algorithm.
- Working on improving the efficiency of face detecting algorithm, like MTCNN. Marking more training data for new training network.
- Main languages used are C++.

Computer Graphics Engineer - Sogou Tech Co.Ltd, China (Mar 2017 - June 2017)

- Working on the project of 3D modeling. Rendering 3D streets models on the plane.
- Analyzing basic data, then making rendering marks according to the established rules.
- Learning some knowledge about kalman filter.
- Main languages used are C++. Platform is Xcode.

Android Game - Timi Run Everyday, Imohoo Info Tech Co.Ltd, China (June 2016 - Sep 2016)

- Worked in the Android Game 4th Group to add charging SDK provided by China Union in Eclipse.
- Handled texture mapping of 3rd pass scene. Took responsible for handling texture mapping when s and t less than 0.0 and greater than 1.0 in ST coordinate.
- Learned technology about cocos2dx.
- Main languages used are C++ and Java.

Course Projects

Relational Database Based on Natural Language (Feb 2016 - Dec 2016)

- Responsible for algorithm of translation between NL and SQL.
- Implemented the algorithm and realized 90% select and 60% delete function, including range selection and deletion.
- Improved the translation efficiency greatly: under 20000 data and 4 attributes situation, executing time is reduced by 91%.
- Extended the algorithm to multi-tables joining situation.

Improved Random Test Generation with TSTL (March 2016 - June 2016)

- Template Scripting Testing Language (TSTL) tool designed by NASA is the test script to test python file. Applied TSTL to generate test cases by defaulted random tester generation.
- Improved defaulted random algorithm by dividing testing time into 2 phases. It can adjust testing direction in 2nd phase according to feedback of 1st phase.
- This algorithm increased branch coverage from 1655 to 2133 in 30 seconds, and from 24912 to 39183 in 300 seconds. Discovered a bug in TSTL script and submitted a bug to authors of TSTL.

Solar System and Cube Earth Simulation with OpenGL (Nov 2015 - Dec 2015)

- Designed an animated simulation solar system with OpenGL in VS2015.
- Applied Kepler's Laws in the animation of planets.
- Added right click button function to make the Earth become cube. Using Cube- mapping texture and lighting can still work.

Fuzzing Test Of System Calls in Linux Kernel (April 2015 - June 2015)

- Designed a fuzzing test tool to test 6 system calls in Linux 3.14.24 version: sys_open(), sys_read(), sys_write(), sys_lseek(), sys_close(), sys_chdir().
- Tested system calls by giving large amount of random data, including valid data and bad data.
- Tested these calls 5000 times and concluded Linux kernel 3.14.24 is stable.

Client and Server processes in Linux (March 2015 - June 2015)

- Designed client and server processes with Linux FIFOs, Message Queue and Socket and compared these 3 methods.
- Clients can execute 12 different commands. For example, they can execute lcd, ldir, lpwd, etc. commands in the local process. They can also execute cd, dir, pwd, etc. commands in the server process.
- Client processes can put or get files on the server process. Two or more clients will not affect each other.

EDUCATION

- Master's Degree in Computer Science (2017)
  Oregon State University GPA 3.7/4.0

- Bachelor's Degree in Network Engineering (2014)
  Tianjin Chengjian University, China GPA 3.3/4.0

LANGUAGE

- Native speaker of Mandarin

- Fluent in English