Basic information

Name:	Fonzie Huang
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Github:	https://github.com/HtwoO
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Resident:	Nanning, Guangxi, China
Objective:	To make education, knowledge and technology available to a wider audience

Work preference

Preferred form of employment: full-time or part-time
Preferred nature of work: remote or on-site in Nanning only

Education

Coursera, 2014
Interactive Computer Graphic, Liberal Art track by Professor Takeo Igarashi, Tokyo University

ChongQing University of Posts and Telecommunications, 2000.9 - 2004.7
Major: Optical Information Science and Technology

Guangxi Nanning No.3 High School, 1997.9 – 2000.7

Skill summary

Good at describing engineering problems and direct communication.

Good problem solving and root cause analysis skills.

Ability to visualize data via graphing.

Familiar with the whole Computer Generated Imagery (CGI) film pipeline.

Familiar with many 3D renderers and their general workflow.

Good understanding of Modulation Transfer Function (MTF), image compositing and color management technology.

Good understanding of different kinds of projection mapping technology.

Image Geometry Correction by applying camera re-projection technique.

Knowledge of image sensor and imaging device, and Digital Micromirror Device (DMD) chip used in Digital Light Processing (DLP) projector.

Familiar with many image/audio/video processing and 3D design software.

Ability to debug engineering problems through mathematical/physical analysis.

Ability to learn a tool in a field and apply the skill to similar/competing tools.

Computing knowledge/skills

Good understanding of distributed system.

Some Scheme (Gnu Guile) programming experience.

Familiar with Python/Shell scripting.

Familiar with various data structures (such as arrays, maps and directed acyclic graph used in build systems).

Good understanding of git data structure, fluent with major git operations, and Github/Gitlab collaboration workflow.

Web servers: Apache, Haproxy, Nginx and Squid deployment, management and troubleshooting.

Extensive experience with Gitlab Continuous Integration (CI) workflow.

Build system: experience with Gnu Make, CMake, Meson.

Database: some experience with MariaDB/MySQL, PostgreSQL and SQLite.

Data visualization: some experience with Matplotlib, Jupyter Notebook.

Virtualization: Qemu/KVM, Docker, LXC, systemd-nspawn, kubernates, good understanding of Linux control group.

System administration: various cli tools on Arch, Debian/Ubuntu, Fedora Linux, some experience with Nix and Guix System.

Workflow automation: comfortable in the CLI with bash, zsh, fish, nushell, PowerShell and Ansible, commonly interacting with computer systems via script or serial communication channel, or interacting with web services via netcat/curl/HTTP client library.

Hexadecimal/binary data debugging/analysis/processing tools: mitmproxy, PktMon, tcpdump, tshark, xxd, WireShark, Sigrok/PulseView.

Security: Good understanding of Public Key Infrastructure (PKI), with experience of using OpenSSL, GnuPG, StrongSwan-pki for encryption/authentication; familiar with VPN technology such as IPSec, Wireguard, et cetera.

Professional software skills

3Delight, Mental Ray, VRay and their Maya plugins.

Adobe Photoshop, self taught and skills migrated from other image manipulation tools.

Adobe After Effects, Premiere, used them for EDL import from story department.

Autodesk AutoCAD, extensive usage of its most common commands.

Autodesk Maya, good understanding of its Dependency Graph (DG) based core design, and Python/PySide/MEL programming in it.

SideFx Houdini, quite familiar with its non-destructive node based workflow.

The Foundry Nuke(X), used its keying/compositing tool extensively, and some Python scripting in it.

Apple Shake, dead, but I learned compositing from its users' guide, and later transfer the skills to GIMP, Nuke, Natron and Photoshop etc.

Inkscape, used to draw (SVG) vector graphics.

Matchmoving, tools used: boujou, Matchmover, Nuke and SynthEyes.

Language skills

Chinese, native

English, professional proficiency

Presentations/Teachings/Projects

Gave talks about PKI and self-signed certificates setup at szdiy

Deployed iRedMail email service for szdiy

Gave a talk about principle and applications of perspective mapping at szdiy

Implemented an angular fisheye lens shader with mental ray (Maya) C++ SDK and Houdini cvex

Gave a Nuke compositing and color management training to colleagues at OCT Vision

Gave Toon Boom Harmony/Digital Pro/Storyboard Pro training to their 2D animation departments at Hyvision/Fantawild

Career

Freelance Engineer/Consultant

Position: Imagineer 2013 - present

Projection design: dual-projector small dome screen project and various other small project.
Write tool to export Maya mechanical rig animation for physical mechanical rig.
Consultation on (ir)regular screen shows for amusement park.

Dorabot Inc.

Position: System Administrator, DevOps engineer, Site Reliability Engineer, 2016.9 - 2022.6

Responsibility:
Managing Linux/Windows servers.
Managing DNS/web/storage/caching/proxy services.
Managing internal Gitlab/Phabricator instance.
Managing Continuous Integration (CI) pipeline for dev team.
Managing internal Debian packaging repository, used in CI pipeline.

Managing resources on Aliyun, AWS, Azure, GCP, Huawei and Tencent cloud.
Managing other information technology infrastructure.

Playfun

Position: Senior Engineer, 2015.5 - 2015.8

Responsibility:
Improved image geometry correction technique in their cylindrical screen virtual Roller Coaster ride film.
Suggested switching from fisheye camera used previously to an angular projection one and improved percentage of effective pixels used.

OCT Vision

Position: Technical Director, 2014.12 - 2015.5

Responsibility:
Improved their full dome by using an env cube camera rig.
Provided color management, nuke compositing, and some pipeline training to artists.
Occasional English-Chinese translation during meeting with their consultant.

Advance Intelligence Inc.

Position: Technical Director, 2011.9 - 2014.11, 2015.12 - 2016.8

Responsibility:
Acted as a technical supervisor for the company.
Involved in resolution of production problems that affect image quality and stereo 3D experience in final shows.
Projection design of almost all projects in the company.
Designed strategy for image geometry correction, and made on-site adjustments to almost all projects of the company.
Assist colleagues with technical problems.

Projects include dome theater, flying theater, dark ride, 4D theater and various interactive entertainment projects.

Hyvision Digital Film Inc.

Position: Technical Director, 2008.4 - 2011.8

Responsibility:
Calibration of irregular/curved projection screen for ride films, by applying offline image geometry correction technology.
Designed appropriate stereo 3D camera rig to achieve good stereo 3D experience and dramatically reduced render time compared to previous solution.
Troubleshoot problematic Maya scenes.

On site technical direction in CGI for Fantawild's film crew.

Notable project: "The Wizard Academy" dark ride

Position: 2D Animation Pipeline Technical Director, 2008.3 – 2008.6

Responsibility:
Help built the whole cartoon animation pipeline for Fantawild 2D Animation from scratch.
Training of artists in the 2D animation department in Shenzhen and Changsha.
Troubleshoot 2D animation pipeline problems.

Position: Post Production Assistant, 2006.2 - 2008.3

Responsibility:
Render farm management and film production file management.

Position: Celco Firestorm film recorder operator/maintainer

Responsibility:
Kept the Firestorm film recorder in good shape for final production of Fantawild 4D film and IMAX dome film.
Translation of Firestorm English manual into Chinese.

Hobbies

I am enthusiastic about free/open source software and a constant contributor to free/open source community.

Things/topics that interest me
stunning image (including but not limited to painting, photography, cinematography and Computer Generated Imagery like Fractal), mathematics, physics, technology, artificial intelligence etc.

I like all kinds of music, sports, mountain hiking and rural life.