Edward Hu

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EDUCATION

THE UNIVERSITY OF TEXAS AT AUSTIN | BS Computer Science

Austin, TX | January 2016 - May 2020

- Coursework: Multicore OS, NLP, Concurrency, Operating Systems, Artificial Intelligence, Neural Network, Computer Architecture, Algorithm

EXPERIENCE

H3C | Software Engineering Intern

Chengdu, China | June 2018 – August 2018

- Reconstructed mjpg-streamer (open sourced) to boost mjpg streams processing efficiency by 10% and utilized the framework in autonomous driving demo.
- Leveraged knowledge in Linux v4l2-ioctl to perform deep analysis on mjpg stream latency.
- Utilized Kubernetes to manage compute cluster in H3C Open Cloud group.

WISESOFT | Junior Software Engineer

Chengdu, China | May 2017 – July 2017

- Implemented algorithms in Tensorflow to apply neural network pruning on voice recognition models used to identify and classify communication data collected from air traffic control.
- Improved recurrent neural network structure to improved the voice recognition rate by 0.7 %.
- Categorized how quantization affect performances of different components in the voice recognition model.
- Facilitated tools to automate the process of preprocessing training files and labels.
- Isolated data processing and training to reduce pressure upon IO.

THE UNIVERSITY OF TEXAS AT AUSTIN | Student Researcher

Austin, TX | August 2016 – Present

- Cooperated with a team of three to develop tools that automate 3-D printer error detection.
- Implemented tools to dynamically detect and modify 3-D printer instructions (gcode) based on their corresponding syntax.
- Overcome the difficulty of collecting training data by designing applications on Raspberry Pi to periodically collect images from camera by user-defined time frames.
- Incorporated tools to automate notifications to users through Gmail services about the condition in 3D printer.
- Classified the major types of defects existing during 3D printing and developed methods to artificially generate the defects for training.

PROJECTS

HOME AUTOMATED IRRIGATION SYSTEM | A Program on Raspberry Pi to control irrigation time

- A program operating on Raspberry Pi that can turn the tap on of off based user-defined parameters.

SHADOWSOCKS | Modified a socks5 proxy to bypass firewall restriction

- Automate the process of setting up Shadowsocks on remote servers.

C THREAD POOL | A thread pool implemented in C with Go-like functionality

- A thread pool with task structs mapped upon pthreads with performance close to Golang goroutine

PINTOS | A functional Operating System implemented in C

- Implemented a fully functioning operating system. Major components include: the scheduling system, sys call, virtual memory, ext3-like file system

SKILLS

Programming Languages	C/C++, Java, Go, Python, Javascript, LaTeX, Unix shells
Frameworks	OpenMP, Tensorflow, PyTorch, Numpy, Matplotlib
Techonology	Linux, Nvidia CUDA, GCC/Clang, Docker, Git, Vim