Yanzhi Li

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Education

Bachelor of Arts in Computer Science and Physics   May 2020
GPA: 3.81   Earlham College, Richmond, IN

Skills

Programming Languages: Python (proficient), Java (proficient), C, C++, JavaScript, Bash, PHP, SQL
Technologies & Others: Linux (Debian and Ubuntu), Android Development, Git, Django, Nginx, Docker

Languages

English: Advanced, **Chinese:** Native Speaker

Publications

Conducting Field Research Using Portable Computing Platforms and Virtualization, submitted to PEARC20, Co-authoring with Dr. Charles Peck of Earlham College(2020)

Experience

Research Assistant, Icelandic Field Studies Program, Jan 2019 – May 2020
- Practiced effective communication with individuals from cross-functional backgrounds.
- Documented quantitative data, describing the details of fieldwork and methods.
- Applied first-party and open-source software to process, and analyze data while in the field.
- Created software in Java and Python for the collection, processing, and visualization of field data

System Administrator, Earlham College Computer Science Applied Group, Aug 2018 – May 2020
- Implemented and tested installation and update of file servers and application servers
- Implemented corrective plans of action for network performance issues including availability, utilization, and latency.
- Optimized system security and performance with Docker containers
- Updated OS on servers, software within each server, and addressed issues as they arose
- Resolved students' request and provided proper technical support

Physics Tutor, Earlham College, March 2017 – May 2020
- Assisted students in understanding of physics concepts and helped them foster physics insights
- Assisted professor in Lab sessions and held a 3 hours tutor session per week
- Used Python to generate graphs and visualize functions to help illustrate complex concepts

Teaching Assistant, CS 440, prof Charlie Peck, Earlham College, August 2019 – May 2020
- Supported instructor with test administration, curriculum development and assignment grading
- Assisted in developing lesson plans based on the languages being taught
- Assisted students promoting their coding and debugging skills
- Designed scripts to grade students' assignments

Web Development Intern, Earlham College, May 2018 – August 2018
- Applied knowledge of JavaScript and Object-Oriented Programming to create half a dozen modular, responsive npm packages for the display of events, news, podcasts, links, and more.
- Worked with a small team to update the Earlham College website to a new CMS, providing students faculty with an easier way to create and modify content on the school's website.

Research & Projects
System Administrator Projects
New Cluster Machine Build Aug 2018
- Built a new cluster machine to backup other cluster machines
- Built NFS file systems and installed Ansible on the cluster

Upgrade Old Cluster Machine Aug 2018
- Upgraded the Operating system and replaced hardware including RAM & GPGPU
- Configured network settings and enabled LDAP on the machine

Rebuilt Department Firewall June 2019
- Replaced the old firewall machine for the computer science department
- Collaborated with the Information Technology Services department to rebuild the VLAN of the local network and implemented new firewall rules

Photo Editor, CS345 Software Engineering, Professor David Barbella, March 2019
- Designed a photo editor application in OpenCV Python that allows user to blur and add filter to images

Gesture Catch Chrome Extension, CS345 Software Engineering, Professor David Barbella, March 2019
- Designed an extension with OpenCV for Google Chrome that could detect users' gesture to execute specific command on the browsers

Complex Analysis and Fresnel Integrals, Math 360 Mathematical Physics, Professor Machael Lerner, May 2017
- Evaluated Fresnel Integrals in the case of infinite upper limits
- Applied Complex Analysis and recognized some expressions could be evaluated as some famous functions including Gamma Function

DNA Analysis May 2019 - May 2020
- Used Mothur and 16s rRNA sequencing to analyze DNA fastq data gathered from the soil sample of Iceland
- Implemented R script to visualize the stack graph of DNA component distribution

Software Development on Android Jan 2019 - May 2020
- Developed and debugged Major Tom App (drone app developed and maintained by Earlham College research students)
- Developed and debugged FieldDay, which allows us to take soil samples and input data into a database

Unikernels Development (Open Source Contributions), August 2019-May 2020
- Contributed to the open source project Solo5, a sandboxed execution environment for building unikernels based application, https://github.com/Solo5/solo5
- Added support to cross-compilation by modifying the configure script and provided protection to system binaries by using program interpreters (C, JavaScript)

Iceland Field Study, Jan 2019 - June 2019
- Helped local archeologists discover subterranean human activity
- Surveyed using commercial drones and speciality lens' (NIR & VLI)
- Built a virtual machine cluster to do large scale data analysis
- Applied Normalized Difference Vegetation Index to analyze the orthographic models