

Python and C Developer Python and C Developer Python and C Developer - Huawei Technologies Inc Atlanta, GA 12 years of experience in software development with experience in Application, System and Embedded software design/development using Python, C and C++ on Linux and Unix platforms. Thorough experience in software development life cycle. Worked on user space system programming on Linux, AIX. Proficient in Python, C and C++ programming. Involved in Development of HP-UX cloud solution using Openstack. Used various IPC mechanisms like signals, pipes, shared memory and socket Programming. Knowledge of advanced level programming including thread synchronization, Multithreading, multi-processing, concurrency. Knowledge of cloud computing and virtualization including KVM and HPVM. Wrote a plugin driver in python that runs as part of nova component of Open stack. Experience with Shell Scripting(bash). Knowledge of PowerPC processor and assembly language. Knowledge of Linux internals. Experience with Flask , REST APIs and SQLAlchemy ORM. Knowledge of AWS services like EC2, S3 and VPC. Experience in configuration management tools i.e. Ansible. Good Knowledge Objected Oriented Concepts, Standard Template Library and Data Structures. Worked with various version control systems such as git, svn, clearcase. Knowledge of RDBMS concepts and experience with writing SQL queries. Good Troubleshooting and Technical support abilities Worked with debugging tools like pdb, gdb, dbx and profiling tools like tprof. Knowledge of Waterfall and Agile Methodologies. Experience with Continuous Integration(CI)/Deployment(CD) tools like CruiseControl. Experienced in writing High Level and Low level design documents for feature development. Experienced in maintaining technical documentation for projects. Experienced with leading junior colleagues and mentoring new joiners.

Good analytical and problem-solving skills and ability to work on own besides being a valuable and contributing team player, strong interpersonal communication skills. Work Experience Python and C Developer Huawei Technologies Inc - Atlanta, GA March 2017 to Present Description: The aim of the tool is to stress a cloud environment/framework such as Openstack by injecting various faults into a running instance of Openstack and have the cloud instance ready for actual failures much before they really occur. Role and Responsibilities - Develop and Enhance the

infrastructure of the product/tool to add capabilities for fault injection. Develop the component responsible for doing fault injection and monitoring the effect of the faults. Explore fault injection tools written in different languages like C,C++ and suggest integration of tools. Add multi user capabilities to Flask web framework being used. Develop REST apis with Flask. Mentoring junior team members. Do code reviews for existing and new code and suggest improvements wherever possible. Bug fixing and maintenance of the application. Environment - Python, C, Linux, Flask, Django, Openstack, MySQL. Senior Python Developer Hewlett-Packard - Alpharetta, GA March 2015 to February 2017 Alpharetta, GA 03/2015 - 02/2017 Project: Cloud based solution for HPUX deployment on HP Integrity servers using OpenStack. Role: Senior Python Developer Description: This project provides a cloud solution for creating and managing virtual machines on HP-UX using openstack as base framework. HP-UX provides a hypervisor called HPVM. HPVM machines can be enrolled using this solution into a openstack setup. Provisioning and managing virtual machine becomes automated and cloud based with this solution. Responsibilities: Developing driver in python that runs as part of nova-compute service and interacts with HPVM hypervisor for creating/managing virtual machines. Developing python based library that is used by the driver to interact with HPVM hypervisor. Baselining code with different openstack releases and testing compatibility. Identifying distribution and packaging mechanism for the python package of the solution. Setup up devstack or Helion Openstack for development environment. Understand and work on shell scripts when required. Demonstrate the solution to different prospective clients. Document the setup and steps to install/use the solution. Leading and mentoring junior colleagues in the team. Bug fixing various issues discovered in testing. Environment: Python, Linux, Openstack, Shell scripting, MySQL, GIT. Project: Integration of HP-UX Cloud solution with Helion Openstack. Role: Senior Python and Ansible Developer. Description: This project involves integrating HP-UX Cloud solution with Helion Openstack framework for as the solution would be used by end users with Helion Openstack framework due to its features and advantages. The HP-UX cloud solution code deployments on HOS framework happens using ansible playbooks. HP Helion Openstack which is standard private cloud offering from HP. Responsibilities: Writing

ansible playbooks to deploy and integrate the HP-UX Cloud solution with Helion Openstack. The ansible playbooks would be used to bind the solution with HOS framework and give users ansible playbooks to run for deploying HP-UX cloud. Integrating and testing the solution with Helion Openstack framework. Identifying changes required to HOS framework for adding a new hypervisor support. Setup and bring up of Helion Openstack with the required configuration/services. Document the setup and steps to install/use the solution. Bug fixing various issues discovered in testing. Environment: Ansible, Python, Linux, Openstack, GIT. C, C++ Developer Dell - Bengaluru, Karnataka June 2014 to March 2015 Description: The product provides re-hosting solution i.e mainframe emulation on Unix Systems at a much lower cost. Users can run their mainframe applications such as Cobol applications directly on Unix systems with this product. This activity involves developing a layer that is common for both Unix and Windows. The layer would provide socket APIs that would be used by application. The layer would abstract Unix and Windows socket related calls based on the platform. Responsibilities Worked as part of Unikix product development team. Developing a new abstraction layer/APIs that provides platform independence. Doing a proof of concept and finalizing the design for the project. Changing application code to use new APIs instead of direct socket calls. Bug fixing for various other product issues that are raised by end users/clients. Environment: C, C++, Linux, Python, SUA/Windows. C/C++ and Python Developer IBM - Bengaluru, Karnataka November 2011 to March 2014 Description: This module/component is meant to stress/validate cache coherency in Power Systems. The module creates multiple threads bound to different cores and runs the different threads in synchronization such that they hit the same cache line (false sharing) at the same time thereby stressing the cache controller wrt to coherency. Responsibilities Rewrote cache coherency exerciser on a new framework Adding thread synchronization logic for multiple threads to run together and one at a time. Adding new instructions support in exerciser for newer generations of processor. Owning the component in terms of design, development and maintenance. Port changes to simulator environment in Python. Designing and developing features in this module. Providing support for defects and other issues to teams who use the

module. Unit testing the feature. Environment: C, C++, Python, Linux, AIX. Project: PowerPC Core Component Development. Role: C Developer Description: Working on module that test the core by creating different load/stress scenarios by mixing and randomizing instructions that are appropriate to stress a particular unit of core such as load/store unit, fixed point unit etc.

Responsibilities: Component ownership in terms of design, development and maintenance.

Enabled module to support 8 threads to run on smt 8(simultaneous multi threading). Add support for new instructions added for next gen processor. Develop code for features to support new

processor specific stress scenarios. Unit testing new features. Providing support for defects and other issues to teams who use the module Environment: C, Linux, AIX. Project: Provide Support

for defects raised against the tool. Role: C Developer Description: This activity involved screening all defects raised against the any component/module of the tool. The goal is to analyse the defects and isolate actual code issues from setup issues or other environment related bugs like Operating

system issues. Responsibilities: Gain code and setup knowledge on almost all modules of the tool. Provide analysis and resolution for the defects. Unblock the testing teams from various issues with their setup. Interacting with testers, other team members and coordinating the bug

resolution. Environment: Linux, AIX. C and C++ Firmware Developer Hewlett-Packard -

Bengaluru, Karnataka January 2007 to July 2011 Description: To reduce the cost of the printer low cost optics (mirror assembly) is used. The laser beam scans in a bow shaped curve with a tilt instead of a straight line due to the defects in the mirror assembly. The resolution of this issue is

done in software. This product caters to medium business market segment with output at 30 pages per minute. Responsibilities: Implemented feature Bow and tilt for improving image quality on the

above mentioned product. Worked on driver and Application modules that work together to control the data and image printing process. Worked on embedded application development for

Multi-Function and Single Function Laser Jet Printers. Fixed defects related to the Video area that controls image and data printing. Implemented the feature on Linux codebase. Porting the

feature to Windows codebase. Environment: Linux, LynxOS. Project: Tray Overfill reporting, Media Size/Type support, product: Scarlet Laser Jet MFP. Role: C and C++ Firmware Developer

Description: Each tray on a printer has a capacity for holding sheets of paper/media. If the tray is overfilled it lead to jams in Paper path of the printer. The aim of the project was to provide information to the user when a tray is overfill and avoid paper jams Responsibilities: Analyzed requirement and wrote design documents for the feature. Designed and Implement changes for reporting tray overfilled condition and excluding the tray from media source selection to avoid paper jams. Fixed defects for the product and coordinated with other partners. Mentored and trained new and subordinate engineers. Environment: Linux, LynxOS, Simulator, Emulator. Project:

Size/Type popup refactoring, product: Kauai Laser Jet MFP. Role: C and C++ Firmware Developer Description: The user is prompted to confirm/change the media size/type in a tray for example when paper/media is loaded in a tray. This feature changed the behavior of presenting the user a single size/type prompt instead of two prompts, one each for size and type as earlier. This product caters to enterprise market segment and supports large volume printing at high speed. Responsibilities: Analyzed requirement and wrote design document for the feature. Worked on similar feature in paper handling area which deals with selection of source and destination of printing media and posting of messages to user for various conditions such as paper out or mismatch. Implementing the code changes for the feature. Fixed defects related to the feature and other areas.

Environment: C, C++, Linux, Simulator and Emulator. C++ Developer Infosys Technologies - Bengaluru, Karnataka September 2004 to January 2007 Bangalore. 09/2004 - 01/2007 Project: Limits Module Enhancement and Support. Worked for Finacle Treasury product development which caters to treasury market banking. Role: C++ Developer. Description: Limits Module is used by middle office tier of banks for risk management. Limits Module is a part of Finacle Treasury. Limits module of Finacle Treasury enhanced to support the exposures based on the original exposure method for forex, forwards and swap deals. Responsibilities: Analyzing the changes required for adding new features/enhancements to the module. Implementing code changes for the enhancement. Designed and Implemented views for limit types addition and modification which was earlier done directly to db. Fixed defects related to enhancement found during internal testing and during support phase. Environment: C++, Unix, Oracle Database. Project: Reuters Dealing

Server and live Support. Role: C++ Developer. Description: There is a manual work involved in entering the deal information in Finacle Treasury. This enhancement eliminates the manual intervention of creating deal by automatically creating the deal in Finacle Treasury as soon as it is done in Reuters Dealing system. Responsibilities: Analyze the changes required for the enhancement. Implementing the code changes for the enhancement. Unit testing the enhancement and fixing defects related to the enhancement. Providing support of the module for customer issues and change requests. Environment: C++, Unix. Education B.E in Information Technology Maharishi Dayanand University - Rohtak, Haryana 2000 to 2004 Skills C (10+ years), Linux (10+ years), MySQL. (3 years), Python (6 years), Unix (5 years) Additional Information Technical Skills: Languages C, C++, Python 2.7 and 3.5, Bash, shell scripting, Java. Cloud Frameworks Openstack, Helion. Debugging Tools Gdb, dbx, Python Debugger. Processors PowerPC, x86 Profiling tools tprof, gprof. Databases Oracle, MySQL. Version Control Systems Clearcase, Subversion, GIT, github. CI/CD tools CruiseControl, Jenkins Deployment / IDE tools Ansible, PyCharm. Operating Systems Linux - Ubuntu and RHEL, AIX, HP-UX, Windows, LynxOS(RTOS). Virtualization Platforms KVM, HPVM, Dockers.

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