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Experience:

SBOM/Software Engineer - Adobe via TEKSystems (short term contract) - 2023-08 - present

Working in the software security team to extend the scanning and reporting ability of our product, using primarily Python. Designed and eveloped a new feature to export software dependencies from an existing dependencies tracking tool into the CycloneDX format. Mentored team members on the CycloneDX specification, and pushed for SBOM best practices. Executed migration of code base from Pydantic 1 to Pydantic 2. Collaborated on defining and implementing in-house SBOM specifications tailored for Adobe's core desktop and cloud products. Conducted comparisons of generated SBOMs against known vulnerability databases, and facilitated adding findings directly into GitHub Enterprise for immediate commit feedback.

Senior Staff Software Engineer - Metify - 2022-04 - 2023-06

Architect, design and implement features in a bare-metal automation system. Leverage the Redfish protocol to create a multi-vendor bare-metal automation platform. Work on the build, packaging (Debian) and deployment systems, verifying dependency integrity via hashes through such tools as Pipenv and pip-tools. Implemented ISO import using the manifests maintained in the https://gitlab.com/libosinfo/osinfo-db/ project. Admin'ed Jenkins and contructed jobs to build official Docker build images, golden VM images (via Packer), and release artifacts. Enhanced the bare-metal automation system with remote provisioning capabilities using TFTP and PXE images, streamlining system deployment across network technologies. All work done in Python. Helped maintain Proxmox instances.

Owner - Azariah Enterprises - January 1996 - Present

Formerly Pedahzur Technologies, and simply "freelance consultant" before that, Azariah Enterprises has over 20 years experience in all things computer related, whether it be custom database and application programming or website design and production. Currently maintaining client's GCP server farms via Terraform and Ansible.

Senior Software Engineer - Brex - 2021-06 - 2021-11

Participated in project to improve the CI/CD system. Designed and implemented features for log and build annotation to facilitate the gathering of metrics, and improve the ability to developers to find root-causes to build and test failures; extracting build information from Bazel logs.

Software Engineer - Prominent Edge (short term project) - 2021-02 - 2021-05

Worked on government contracts having to do with tracking COVID-19 testing of soldiers. Also assisted with the startup of a new GIS project. Stayed until project end.

DevOps Engineer - Taos Mountain - 2018-06 - 2021-02

Client 2 - Architecting and writing a company-standard build system in Python. Allows developers to use the company's CI/CD pipeline in a standard way, with easy commands to invoke applications such as Aqua and Black Duck against their application as a part of the pipeline, push to the container registry, run tests, and more.

Client 1 - Develop configuration packages for clients. Develop automated creation (Ubuntu, Redhat/CentOS, and FreeBSD) and testing for packages being developed (Jenkins, test-kitchen, chef, and inspec). QA work on packages. Create images with packer and vsphere-iso. Drove the effort to add automated build and testing to existing packages. Designed and configured proof-of-concept Jenkins pipeline for testing merge requests. Designed and implemented merge request testing, as well as the package building/testing/promotion pipeline. Worked with colleagues to create a OS image creation and testing pipeline.

DevOps Engineer - New Context - 2015-10 - 2018-05

Maintained infrastructure for clients. Use Chef, Test Kitchen (including kitchen-terraform), ChefSpec, Chef Server, Terraform, and associated tools to create and maintain code which manages the infrastructure (physical and AWS) used by New Context's clients. Worked on in-house project (SaaS). Front-end in ember, Ruby on Rails back end. infrastructure managed by terraform (on AWS).

Python Programmer/Web Application Developer (short term contract) - eWinery Solutions - 2015-05 - 2015-10

Designed and contributed improvements to their deployment system. Helped design and implement the "ground breaking" of the Python REST API application that would move their legacy application toward a JavaScript/API driven application. Assisted in developing a standard VM image for developers to use as their development/testing platform (using Vagrant and Ansible).

Dev/Ops Lead - Whamcloud/Intel - 2011-12 to 2015-08

Maintain servers for HPDD code repository/code review, bug tracking, wiki, test result tracker, build farm, and test lab. Maintain four clusters comprising over 200 physical machines and over 1100 virtual machines. Configured and provisioned via Cobbler, PXE booting, and Chef. Hardware upgrade research, sizing, planning, purchasing, and roll-out.

Senior Developer - CRC Health - 2010-02 to 2011-11

Maintained an architecture (hardware and code) which supported over 300 web sites: version control and automated deployment. Various projects including system upgrades, programming, and system monitoring. Site maintenance and scripting, including ETL programming. Documented several previously-undocumented systems and applications.

Web Application Server/Python Web Services Architect - WordStream (short term contract) - 2008-11 to 2009-04

As a contractor, had roles of system administrator, framework architect, application programmer, and database administrator. Scheduled and coordinated planned outages, and implemented monitoring.

Python Developer (WSGI web framework/back end) - S&K Aerospace - 2007-11 to 2008-10

Designed and coded applications and unit tests for the in-house WSGI framework. Also wrote various utilities: scripts to take SQL dumps and turn them data-dictionaries, dependency graphs, and Python and JavaScript CRUD frameworks. Designed and coded functional and integration tests. Linux and Windows system administration.

Lead System Administrator and Senior Programmer - EE Internet - 2006-05 to 2019-12

Daily maintenance of servers, as well as maintenance of in-house scripts and applications. Designed and implemented applications (python and perl) for weather and environmental data processing, current conditions reporting, and graphing (see http://photizo.eeinternet.com/). Successfully argued for the use of wikis in project documentation, then researched, planned, and implemented a "wiki farm" for creating information repositories for both internal and external use. Planned and executed migrations of: Approximately two dozen domains from an aging Apache 1.3 server to an Apache 2 VMWare guest; DNS service off of two aging machines to new VMWare guests; Sendmail/SpamAssassin based system to a Postfix/Dspam based system; Restructured network from a simple NAT box and servers exposed to the Internet to everything behind a firewall.

System Administrator - UAF Center for Distance Education - 2004-09 to 2006-05

Created and executed a plan to replace an aging and broken backup system with an open-source, cross-platform backup solution (Bacula). Administered 15 servers of various kinds (storage, web, database (MySQL), backup), both Linux and Windows and supported 20+ user desktops. Performed small programming and scripting projects as required. Was responsible for spec'ing out, purchasing, assembling, and installing new servers. When storage was needed, researched, recommended, acquired, and implemented storage servers providing a total of 20.4TB of storage space (Coraid AoE), which back then was actually a big deal.

Information Services Director - Associated Students of UAF - 2000-02 to 2004-08

Was hired into a new position, so was responsible for setting department policy, duties, and precedent. Did Linux and database administration. Rewrote their legislation tracking database as an MS Access front end/MySQL back end system. Was responsible for designing, coding, and implementing, for the ASUAF elections, the first online voting system in the state.

Computer Technician/Database Programmer - Hunt Foods Company - 1998-1999

Was initially hired to do meter reading and reports. Upon demonstrated aptitude in other areas, was tasked with inventorying for Y2K equipment replacement, setup and maintenance of production floor workstations, maintenance and extension of various in-house MS Access database applications, Excel and Access development, and co-administration of Windows NT servers.

Current Tools and Proficiencies

Python, Django, Perl, Ruby, Shell, *nix administration (Ubuntu/Debian, CentOS, Redhat, some FreeBSD), PostgreSQL, SQLite, Git, Jenkins, Linux KVM and libvirt, JSON, Ansible, Haschicorp Packer, Terraform, Vagrant, Nginx, REST, Redfish

Past Experience

Apache, Bacula, LigHTTPd, Bind (and DNS admin), Chef, Kitchen, InSpec, Postfix, MySQL, Database design, Subversion, Trac, (X)HTML, TCP/IP and Ethernet Networking, ATA-over-Ethernet, Buildbot, JIRA, Confluence, Gerrit, Cobbler, Conman, Powerman, Slurm, NFS, NIS, FreeIPA, CherryPy, Munin, Mon (http://mon.wiki.kernel.org/), Nagios, Web Services, REST, XML, SOAP, AWS, CloudFoundry, ChefSpec, Terraform, VMWare Server, some PHP and C/C++

Licenses, Certifications, and Training

- 25 year clean driving record. Hold Alaska Driver's License.

- Leviton One-day Cat5 Cable Installer Training and One-day Fiber Optic Installer Training

- Have held a US Government Security Clearance

- No arrests, DUI's/DWI's, or other infractions

Papers

10,001 (Or More) Polling Stations: Voting Virtually @ UAF

http://jjncj.com/papers/VotingVirtually.pdf

Improving Open Source Software with an Object Oriented Design Model

http://jjncj.com/papers/OOD.pdf

Using the UA Web: Observations, Suggestions, and Comparisons

http://jjncj.com/papers/UAWebUsability.pdf

Open Source Involvement and Projects

- Recognized MySQL Community Contributor

- Two patches accepted by the Buildbot project, one of them a new feature

- Minor contributions to rst2pdf (http://code.google.com/p/rst2pdf/)

- Bugfix for OWFS's Python module (http://sourceforge.net/projects/owfs/)

- Feature addition for two Munin plugins

- Contributions to Salesforce Python Toolkit (http://code.google.com/p/salesforce-python-toolkit/)

- E-mail and dspam utilities: http://www.eeinternet.com/opensource.html

- AWStats Cache File Reader: https://github.com/jkugler/awstats_reader

- CDC Data Collector: A sensor reading framework https://github.com/jkugler/cdc_data_collector/

Volunteer and Community Experience

2011-Present Serve on the advisory board for the University of Washington Certificate in Python Programming

2001-2003 Served on the Technology Advisory Board at UAF, which distributes student TAB fees to be used for innovative technology in education.

2000-02,06,07 Served as a judge for the yearly Home School Science Fair

2003/2004 President of the University of Alaska Fairbanks Linux User's Group

Miscellaneous Highlights

Fall, 2002 Nominated by the students of UAF for, and appointed by the Governor to, the position of Student Commissioner for Post Secondary Education, a position with the Alaska Commission on Post Secondary Education.

Fall, 2002 Participant in the first web-based Computer Science graduate course at UAF

Spring, 2003 Invited by the Chair of the UAF Department of Math and Sciences (DMS) to be the student representative for DMS at the UAF College of Science, Engineering and Mathematics planning retreat

Spring, 2004 Appointed by UAF President Hamilton to sit on the University of Alaska Ad Hoc Committee for Accountability and Sustainability, a group convened to make UA more efficient and cost effective.