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SKILLS

Programming Languages: Perl, JavaScript (Node, react and others), Python, C/C++, SQL

Operating Systems: Linux, Windows, some OS X

Applications and Libraries: PostgreSQL, MySQL, RabbitMQ, Nginx, Apache, Lighttpd, Git, CVS, Subversion, some previous Oracle experience

Miscellaneous: HTML; CSS; IPv4 and IPv6 networking; strong verbal and written communication skills; excellent troubleshooting, problem solving, and debugging skills; very fast at getting up to speed on existing systems.

EXPERIENCE

Work History

ThinkIQ *March 2020-June 2020*
DevOps Contractor
- Main Project - Rearchitecting deployment stack
  - Original architecture had lots of overhead, deploying about a dozen pieces in containers in kubernetes. Including production databases. This lead to performance and capacity issues on customer systems
  - I redesigned the system to be deployable as a single VM image, reducing overhead and making hosted database solutions such as Amazon RDS and Azure Database easier to use.
  - Helped consolidate the design of internal scripting systems using python to have a single managed environment on the new VM images. Previously there were multiple copies of python depending on which part of the system an action was started from, each with their own copies of installed modules and vendor libraries that were frequently different versions.
- Developer Support
  - Provided experienced code reviews for vendor python libraries and code.
  - Assisted in securing the design of the authentication system combing GraphQL and the existing CMS (Joomla) so that future API clients can be authenticated securely among services using JWT tokens.
- Customer Production Systems
  - Setup additional monitoring for production systems (Healthchecks.io + PagerDuty)
  - Diagnosed overcommited customer systems that were having intermittent issues with IO availability
  - Normal maintenance ensuring customer backups were working properly and testing restoration functionality of systems onto internal staging systems

Intellisurvey *August-November 2019*
Senior Software Engineer
- Backend Perl development
  - Implemented new parsing and grammar rules for survey language
  - Fixed parsing errors for survey language

Buzli *April/May 2019*
Contractor
- Created AWS infrastructure with Terraform to log ad data for future reports and auditing
- Created software to pull data from 3rd party ad servers
- Began development of integration with 3rd party ad provider to existing infrastructure

Sold.com *2018-2019*
Senior Software Engineer
- Backend service development: Java and Python
- Middle-ware Node.js work to securely and safely expose backend services to the outside world
- Frontend work redesigning key parts of functionality and UX.
- Created address matching and normalization service
  - Takes in human and public record addresses to match between differing formatting and abbreviations
  - Matched public record data to determine correct valuation of properties based on existing records
- Helped revising design of data tracking of the web frontend using Segment.io

- Aided Data team in understanding existing application and data coming from the application to develop reports
- Managed Jenkins service for automatic deployments to development environments and manually triggered deployments to production
- Managed existing AWS infrastructure
    - Setup new services with ECS and ECR
    - Setup new domains and load balancers
    - Created reporting infrastructure for Data/BI team (Databases, Redshift, EC2 instances)

Surf-Air   *2017-2018*
Senior Software Engineer
- Maintained existing legacy systems
    - Thoroughly documented both architecture and functionality in system
    - Helped DevOps team to properly upgrade and deploy legacy system onto upgraded platforms
- Drove primary back-end development of new features and products
- Integrated new vendor systems with the legacy back-ends

Ziprecruiter   *2016*
Senior Software Engineer
- Updated account creation flow back-end code to handle new flows to aid in user conversions
- Designed an internal service for secure resume and document conversion
    - New internal service replaced an external one that was costing a significant amount to run
    - New service also allowed for multiple conversions to be done in parallel to take better advantage of larger servers
    - Allowed asynchronous conversion of resumes and documents to PDF for embedding in browsers
    - Designed the system to be secured against corrupted documents and attacks to prevent it from being able to disclose PII

Connectivity   *2015*
Senior Software Engineer
- Spearheaded integration with multiple phone systems for data acquisition
    - Twilio: Simulring/Call hunting and forwarding
    - Ringcentral: Direct integration via API
    - Grasshopper via Twilio
    - Vonage, AT&T, Time Warner, et al.
- Helped architect internal API/Reporting and Analytics engine
- Created automated text messaging system based on scheduled hours for clients
- Designed and developed a system for managing and heuristically detecting burned IP addresses for crawling various data sources

Rent.com   *2012-2014*
Lead Developer/Team Lead/Scrum Master
- Lead the integration of Rent.com property management systems with Salesforce.com to replace internal sales tools.
- Integrated Rent.com systems with parent company property management systems.
- Lead the move between data centers migrating almost all production systems.
    - Moved and tested code from Perl 5.14 to Perl 5.16
    - Changed deployment system to work as an unprivileged user to accommodate more securely setup systems
    - Assisted the overnight deployment and testing
- Re-architeched and finished long standing rewrite of inventory automation system
- Performed SCRUM Master duties involving planning, auditing, and making sure that projects were being worked on and not blocked
- Took on project management responsibilities for several projects to ensure they were done properly and on time
Further employment information available on request.

Open Source Work

GitHub

- You can also find many more projects on my GitHub account at <https://github.com/simcop2387/> and as the perlbot project at <https://github.com/perlbot/>

App::EvalserverAdvanced   *2006? - Present*
Creator, Lead Designer, and Lead Developer
- App::EvalserverAdvanced is an application sandbox and ephemeral container system that allows secure and safe execution of arbitrary programs and source code. It's currently powering teaching and learning tools for the Perl community on IRC and <https://perl.bot/>.

- The sandbox and container are completely configurable to allow for multiple security contexts and environments for different applications and requirements.
- The server has a formally defined protocol allowing for asynchronous job creation and reporting. This allows both parallel running of applications and in theory priority based queuing of jobs based on desired priority and session history.
- More Information: https://metacpan.org/pod/App::EvalServerAdvanced and https://github.com/perlbot/

Farnsworth Programming Language *2008-*
Creator, Lead Designer, and Lead Developer
- Farnsworth is a dynamically typed functional and imperative programming language. It is being designed for applied mathematics and physics. Currently has a working implementation consisting of 26,000 lines of code, including a testing suite for the parts of the language that are finalized.
- More Information: https://www.simcop2387.info/

AutoSub *2009*
Creator, Lead Programmer
- A project to aide in the creation of closed captions by identifying portions of video that contain human speech using various types of signal analysis.
- More Information: https://github.com/simcop2387/autosub

MediaSched *2005-*
Creator, Lead Programmer
- MediaSched is a program for easily running any kind of scheduled and unscheduled media playback. Supporting the use of existing calendar/scheduling software for the selection of simple to complex play lists.
- More Information: http://github.com/simcop2387/MediaSched

REFERENCES

Kaitlyn Parkhurst	Senior Software Engineer at Intellisurvey	symkat@symkat.com
Jeff Yoak	Project Manager and Consultant	jeff@yoak.com
Ben Tilly	Software Engineer at ThinkIQ	btilly@gmail.com