JOHN CURRAN JR

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SUMMARY OF QUALIFICATIONS

Senior Level Software Engineer with 17+ years of experience in the industry, and a Bachelor of Science in Computer Science from Texas State University.

- Programming Languages: **Go**, **Python**, Java, PHP, VB, C#, .NET, CSS, Javascript, JQuery, AJAX, Angular.js, HTML5, SocketIO
- Version control: **Git,** Subversion (SVN)
- Provisioning: **Kubernetes**, Docker-compose, Terraform, Vagrant, Razor
- CI/CD Pipelines: **Github Pipelines,** Gitlab, Jenkins, ArgoCD, Flux
- Configuration management: **Docker**, Salt, Chef, **Ansible**, Puppet, **Bash** scripting
- Databases: TimescaleDB, **PostgreSQL**, MySQL, Redis, MongoDB, **ElasticSearch**, DB2, MS SQL
- Caches: Varnish, Redis, Memcache
- Load Balancers: HaProxy, Amazon ELB (Elastic Load Balancer)
- System tools: **tmux**, sysdig, tcpdump, strace, nmap, awk, grep
- Development IDEs: VS Code, Vim, Sublime Text, Eclipse, MySQL Workbench
- OS Platforms: **Ubuntu**, Centos, Fedora, Red Hat, OS X, Windows
- Queues: **RabbitMQ**, ZeroMQ, SQS, Kafka
- Distributed workflows: Airflow, **Celery**, SWF
- Statistical analysis: **Pandas**, Numpy, Jupyter Notebooks, **SQL**, zipline, R
- Cloud Platforms: **AWS**, Azure, GCP, **Openstack**, VCenter, Proxmox

WORK EXPERIENCE

Air Force Contractor, San Antonio, TX — July 2023 - Present
Red Knight, Senior Systems / Software Engineer

- **Hardware:** PowerEdge R6515, Dell Powerswitch
- **Languages:** Python, Go
- **Configuration:** Kubernetes manifests, helm charts, zarf packages
- Build out deployable kits consisting of 10 PowerEdge servers clustered together using Kubernetes.
- Install and test offline package installation (via zarf) of network intrusion detection software which includes tools such as zeek, suricata, arkime, elasticsearch, etc into a kubernetes deployment.
- Built zarf packages for deploying applications. Zarf packages are helm charts and docker images packaged together for use in offline deployments of applications within a kubernetes deployment (https://zarf.dev)
- Setup Canonical's MAAS software for setup of infrastructure components including Dell switches, firewall and kit servers via DHCP and PXE boot configurations.
- Building packer "golden" images for use by MAAS to PXE boot the servers into a RKE2 Kubernetes cluster.
- Automate OS10 Dell Powerswitch builds to configure the network for a deployable kit with a custom script utilizing paramiko.
- Debug issues all the way from hardware misconfigurations to helm charts to fixing 3rd party application code by checking logs and fixing python or go code.

Jumpcloud, San Antonio, TX January 2022 - July 2023
Senior Software / Data Engineer

- **Languages**: Node.js, Python, Go
- Migrating monolithic ec2 application deployments into smaller microservice nomad / kubernetes deployments.
- Managed system insight api and events for tracking os query data into jumpcloud pipelines and databases (postgres, kafka and snowflake)
- Debug and fix backend issues with jumpcloud python and go deployments.
- On call for monitoring and fixing error rates on production deployments.

Air Force Contractor, San Antonio, TX December 2020 - December 2021
Braingu - DevSecOps Platform Engineer

- Contractor supporting Air Forces LevelUp program to deploy Kuberneres according to DoD's DevSecOps Reference Architecture
- Use rke3 to deploy kubernetes, flux to deploy platform applications, and argocd to deploy customer applications.
- Manage AWS infrastructure via terraform and gitops.
- Work with application teams to deploy their workloads into staging, test and production clusters.
- Integrate CSI drivers and other platform applications into kubernetes deployments.
- Use SAFe Agile process to run sprint planning, retrospectives, and daily stand ups.

Mantech - Senior DevOps Architect October 2018 - December 2020

- **Languages**: Python
- **Servers:** Supermicro x8 / x10, HP DL-160, Dell R440, Dell XR2, Tracewell T-FX2
- **Switches:** Cisco Catalyst, Dell S-Series
- **Packet Broker:** Ixia xStream 40, Vision Edge 40 (E40)
- **Database:** Elasticsearch 6 and 7.5
- **Tools:** Kubernetes, Ansible, Kibana, DPDK, Moongen, Breaking Point, Verodin, Redfish API, Zeek, Suricata, Moloch
- Contractor for Air Force Research Laboratories (AFRL) supporting CVAH program.
- Built out a lab of 10 deployable interceptor kits (7-10 R440 servers) for load testing of network IDS suites (Bro/Zeek, Suricata, Moloch/Arkime) deployed via kubernetes into cri-o containers.
- Rack and stack servers and switches. Configured lab switches and server out of band management (iDRAC, HiLo, IPMI) interfaces, management interfaces to the access switches, and sensing interfaces connected to Ixia Packet Broker.
- Setup labs distribution and access switches to handle routes to firewall's (pfsense) external interfaces.
- Setup custom domains for each kit and conditional DNS forwarding with dnsmasq
- Tested deployable hunt platform that would install kubernetes via ansible on bare metal servers and then deploy intrusion detection applications (moloch, suricata, zeek) to sensors with data aggregated in Elasticsearch and visualized in Kibana.
- Built testing suite for monitoring packet drops and other statistics to ensure the accuracy of signature detection under 10 Gb/s load testing. Also tested the automatic generation of configs for switches (Cisco and Dell), ESXi, and firewall or the IDS kit.
- Automated discovery of hardware via Redfish API. Integrated MAC address retrieval, setting boot order for one time PXE boot, and power control into the system for Continuous Integration pipeline.
- Build 10G traffic generation solution for throughput testing network analysis tools such as moloch, suricata, and Zeek (formerly Bro). On an X-710 network card we obtained 6 GB/s using tcpdump, DPDK pktgen to get 10GB/s, moongen for custom scripting of packets at 10 GB/s, and Breaking Point (paid solution) for 10GB/s of custom configurable traffic generation via a web interface.
- Integrated with Verodin for malware analysis to test the accuracy of the IDS (Intrusion Detection System).
- Implemented packer brokering on IXIA Extreme 40 for load balancing traffic based on session
- Worked on Jenkins build scripts including tests, reports on bugs and fixing ansible scripts for network IDS builds

- Worked on openvpn server and client setups for remote sensor installations. Also established IPSec tunnels connected to an ASA with DNS forwarding setup for access to multiple kits across different networks.

Planet Labs, San Francisco, CA (Remote from San Antonio, TX) June 2017 - October 2018
Senior Software Engineer

- **Languages**: Python, Go
- **Environment:** Kubernetes, Amazon EC2, GCP, Azure
- Deploy and manage OpenID Connect service for SalesForce Single Sign On (SSO)
- Migrate from ansible deployment to docker containers deployed into Kubernetes.
- Develop reports in kibana to analyze traffic to public API for debugging
- Manage the public data api, including finding and implementing solutions to geospatial and other issues in the public data api.
- Migrate postgreSQL databases and other services from AWS to Google Cloud (GCP).
- Worked on and fixed the cleaning up of geojson searches with too many point coordinates causing database load to reach critical state
- Worked on private Azure deployments for various entities

Showroom Logic, Miami, FL (Working remote from San Antonio, TX) 2013-2017
Senior Developer

- **Languages**: Python, PHP
- **Environment:** Amazon Opsworks (Chef cookbooks), Elastic Beanstalk (docker)
- Architect and implement the distributed ETL workflow to aggregate reporting data from multiple 3rd parties, primarily Google Adwords and Google Analytics.
- Implement a schedule of distributed tasks to generate executive reports for the business.
- SQL reports and front end applications for customers and internal business requirements.
- Developed web front ends for reporting systems using morris.js or d3.js charts.
- Lead team to build flask and django applications.
- Integrated tasks into an application that used Amazon's SWF (Simple Workflow).
- Developed a distributed hosting application for dealer websites that increased conversion rates through better quality scores and provided efficient flow of traffic for 1000s of clients. Features included : caching with varnish, A/B testing and integration with Google Experiments, payment information integration via SOAP and REST APIs.
- Build a campaign management platform that automatically adjusted ad spend to the campaigns with the highest performance according to a proprietary ranking algorithm.

Rackspace, San Antonio, TX 2012-2013
DevOps Engineer II / Quality Engineering

- **Languages**: Java, Python, Ruby
- **Environment:** Openstack, Chef (infrastructure management), Jenkins
- Worked in Private Cloud team to :
    1. Rack servers and build automated API that used Razor bare-metal provisioning software to PXE boot a pool of servers with a set distribution of Centos, Fedora and Ubuntu bare-metal instances.
    2. Build API to pull from pool of servers and test feature sets specified.
    3. Integrate with Jenkins to automate testing of chef cookbooks via a git hook to an API endpoint
    4. Feature matrix included but not limited to : building cookbooks and testing authentication methods (database, LDAP, 389, OpenLDAP), cinder storage backends (LVM, EMC hardware, etc), and integration of different testing suites into the platform to ensure a high quality product.
- Built a web application in python to visualize the Rackspace Lab infrastructure and interact with multiple Openstack deployments.
- Mastered ping pong.

HEB Grocery Company, San Antonio, TX 2011 to 2012
Java Developer

- **Language:** Java EE, JSP, Jquery, HTML
- **Environment:** Eclipse, IntelliJ
- Developed the java application and specific jsp views for the Inventory Store Transfer System to replace old mainframe screens. Allowed HEB employees to transfer items between departments/stores and have their inventory updated within DB2 tables.
- Integrated store transfer system within handheld scan guns used by HEB partners.
- Developed the core library for Inventory Store Transfer System, including DAOs to connect to Apache Axis Web Services and directly to DB2 tables.
- Developed Android App for shopping list and coupons.

Contractor, San Antonio, TX 2009 - 2012

- **Language:** SQL, C# .NET, VB .NET, VB6
- **Environment:** SSIS, SQL Server 2005/2008, Visual Studio 2005/2010
- Bain Consulting: Contracted with WellMed for work on SSIS reports and C# .NET applications for running analysis on patient data for use by the nurse staff.
- Autogas: Worked on SQL and VB.NET code to update Point of Sale software for use in gas stations from legacy VB6 code and flat file databases schemas.
- Texas State University: Worked as research assistant on C++ code for solving linear algebra problems as a proof to be published in a research paper on wireless sensor networks. Also created an algorithm for faster message routing in delay tolerant networks. Coauthor on two papers.

Personal Project

Statistical Analysis of Candlestick Patterns in the Stock Market

- **Languages:** Python, Go, SQL
- **Database:** Redis, Postgresql**,** TimescaleDB
- **Packages**: Flask, Celery, Pandas, TastyTrade
- Built a flask api for displaying reports with gradient charts built by distributed celery tasks to show the historical percentages for reactions in the stock market after specific patterns.
- Built network workers using celery gevent (event loop) concurrency framework for pulling ticker historical data and other statistics (company financials, news events, etc)
- Built cpu workers that runs multiple processes to analyze the historical data looking for patterns and which way the market moved after the pattern occurred.
- Generated report showing recent patterns that have historically been shown to have the market move up greater than 75% of the time (long signal) or have failed to move up less than 25% of the time (short signal).

Education

B.S. Computer Science, Texas State University, San Marcos, TX May 2011

Minored in Mathematics
Recipient of Texas State Undergraduate Research Excellence Award – 2010
Co-authored research paper w/ Dr. Chen – 2010

J. Curran, and X. Chen, "A Minimization Problem in Wireless Sensor Networks", Proc. Of the International Conference on Parallel and Distributed Computing and Networks, February 2010.

Recipient of National Hispanic Scholarship – 2007
Received top score of 5 for the AP Computer Science exams