Cody Kochmann

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Short Summary

I am a self taught cloud architect, programming polyglot and security developer.

Top skills

- I read manuals..
- I am very good at saving companies a lot of money.
- I can comfortably code in a wide variety of languages.
- I can sysadmin just about any OS running on a linux kernel.

Experience

DDOS Mitigation

Designed and built the fastest free DDOS mitigation solution my company could find. This solution was able to block 720,000 new malicious hosts per minute across our entire distributed network.

Technologies	BerkleyDB, SQLite, BGP, Quagga, RabbitMQ, Linux Kernel
OS	CentOS
Languages	Python, JavaScript, Perl, PHP
Roles	support then project lead, software architect

Log Aggregation

Saved the company millions in log aggregation costs by architecting a distributed ELK cluster designed to ingest and analyze host/network/app logs across our hybrid cloud/on-prem network.

Technologies	ElasticSearch, Logstash, Kibana, syslog/rsyslog/syslog-ng, Kafka, TensorFlow, Docker, Kubernetes, OpenShift, Linux Kernel, AWS, Digital Ocean, VMWare ESXI
OS	CoreOS, Kali Linux, Alpine, FreeBSD, CentOS
Languages	Golang, Python, Rust
Roles	project lead, AWS architect, software architect

Container Security Analysis

Built, tested and deployed a multitude of both home-brewed and enterprise container security systems to learn which were worth the company's time. This saved the company years of redeploying to different solutions to just shortcut to the best options.

Technologies	Twistlock, Sysdig, Aqua, HELK, Security Onion, OpenShift, Kubernetes, Docker, Amazon Lambda, Amazon ECS, Amazon EKS, Digital Ocean, Kubernetes, Google GKE
OS	Kali Linux, CoreOS, FreeBSD, CentOS, Alpine, Ubuntu
Languages	Python, Golang, Rust, C
Roles	project lead, container specialist, cloud architect

Network Monitoring

Built, tested and deployed a multitude of netflow/packet capture/firewall log analysis tools to give the company deeper insight to AWS, on-prem, and container network traffic.

Technologies	PacketBeat, IPTables, Linux Kernel, Berkley Packet Filter, Juniper Netflow, ELK stack, Kafka
OS	Kali Linux, CoreOS, FreeBSD, CentOS, Alpine
Languages	Python, Rust
Roles	support then project lead, kernel developer

Stock Analysis

Built an automated stock analysis framework that ingests stock metrics, generates predictions with ML libraries and predicts what the safest stock to invest in was at that moment.

Technologies	SQLite, BerkleyDB, RabbitMQ, Kafka, ElasticSearch, TensorFlow, Scikit Learn, Digital Ocean, AWS
OS	Debian, CoreOS, Alpine
Languages	Python, Rust, OpenCL, CUDA
Roles	project lead, software architect

Open Source Development

Battle Tested

Fully automated function fuzzer that within seconds can highlight every crash your code will raise over time. This has given quality assurance audits a serious run for their money due to how many undiscovered issues it is able to find in seconds.

GraphDB

The fastest pure python graph database available on pypi. This database combines the flexibility of graph databases with the portability and stability of SQLite.

Queued

Library that turns tiny functions into fully functional async queued services. This was inspired by the DDOS mitigation tool I wrote to give programmers a way to organize a ton of little async monitorable services within a single process or multiple cores.

Strict Functions

A collection of function decorators that enable things like restricted global access, function overloading, async protection, and automatic crash logging. This library has allowed myself and many others to write more stable and predictable libraries in less time.

Generators

This started as a collection of special iterator tools and evolved into a library primed for writing high speed pipelines in a single line of pure python. This library has become my bread and butter for quickly solving problems that require pipeline processing in less than 5 minutes.

References

Name	Position	Contact Information
Christopher Mishaga	CISO @ NASA	christopher.a.mishaga@nasa.gov
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