Jacob Kupersmith

404-989-5409 | jake@jkup.org
https://www.linkedin.com/in/jkupersmith/
https://github.com/jkupersmith

Summary

I am a full-stack engineer with over 20 years professional experience working in telecommunications and cybersecurity industries.
I am proficient leading products through the entire software development life cycle, collaborating effectively with cross-functional teams, and working under tight deadlines.
I think of myself as a generalist but am most experienced developing back-end systems on Linux with a focus on networking, also I am no stranger to helping resolve issues in high pressure situations such as production outages and responding to zero-day vulnerabilities.

Technical skills

- Programming Languages: Python, Go, C/C++, Perl, JavaScript, Java
- Databases: PostgreSQL, MariaDB/MySQL, Elasticsearch, MongoDB, Redis
- Web Frameworks: Express.js, Vue.js, Angular
- DevOps: Kubernetes, Prometheus, GitLab, Jenkins, Ansible

Professional Experience

Sr Staff Engineer | Balbix | San Jose, CA | 2021.11 - Present

Balbix helps organizations improve their cybersecurity posture through automation and AI.

- Developed framework for automating [CIS Benchmarks](#) on Linux systems adding key capabilities to help customers comply with new SEC regulations.
- Developed detection strategies for zero-day vulnerabilities log4j, spring4shell, and Apache struts helping customers identify vulnerable systems and applications.
- Developed lightweight agents for Linux, macOS, and AIX systems that are deployed across hundreds of thousands of customer assets helping to power inventory and vulnerability management systems.
- Collaborated with engineering teams and product managers to design and implement new features, ensuring on-time and high-quality project delivery.
- Conducted code reviews, implemented unit tests, and worked closely with QE team to ensure software reliability.
- Mentored junior developers and provided technical guidance on best practices and coding standards.
- Conducted technical interviews for engineering and internship positions.
- Worked closely with customer support team and with customers directly.

Software Developer | myNetWatchman | Atlanta, GA | 2017.07 - 2021.11

myNetWatchman provides unique identity intelligence solutions, financial fraud and reputation risk management.

- Developed and maintained ML/data processing pipelines and (dark-)web site scraping applications.
- Developed and maintained public web portal and APIs responsible for delivering core data feed to customers.
- Built and supported several clustered services deployed to on-premises

Supermicro systems; 80 node elasticsearch cluster, 2PB ceph storage cluster, 100 node proxmox cluster, 30 node kubernetes cluster, multi-node rabbitmq clusters.
- Designed, built, and supported several smaller database solutions as well; PostgreSQL, MariaDB, Redis
- Migrated manually scaled data pipeline workers into kubernetes cluster and created auto-scaling based on workload.
- Design, build, and support custom CentOS Linux based routers using iptables and iproute2.
- Support and enhance distributed packet capture and analysis system (Arkime Full Packet Capture, formerly Moloch)

Software Engineer III | Cox Communications | Atlanta, GA | 2010.08 - 2017.07

- Developed and maintained customer premise equipment management system used by DOCSIS engineers, field technicians, and customer support staff to maintain high-quality and reliable service.
- Optimized and scaled the distributed SNMP collection process responsible for scanning ~12M cable modems and cable modem termination systems on an hourly schedule. Resulted in a 100% improvement in runtime performance and allowed the solution to scale to our largest markets without additional hardware.
- Conducted code reviews, implemented unit tests, and worked closely with QA and operations teams to ensure application reliability.
- Worked closely with DOCSIS engineering teams to deliver new features and enhancements in support of new cable modem and set-top box capabilities; i.e. IPv6, DOCSIS 3.1

Network Admin | Cox Communications | Atlanta, GA | 2003.06 - 2010.08

- Developed and maintained network monitoring system responsible for delivering real-time alerts to the network operations center and reporting service availability, ensuring core services meet the required SLA and positive customer experience.
- Worked closely with product owners to develop intelligent health checks and performance monitoring of their systems and services. Helping provide engineers with the tools necessary to diagnose and troubleshoot health and performance related issues.
- Build repository of OSS packages for Sun Solaris running on SPARC systems using NetBSD's pkgsrc package manager.
- Managed team of offshore developers in 2009-2010, 50% travel. Helping to deliver new enhancements to web reporting and management portal.

Systems Administrator | Usenetserver | Atlanta, GA | 2000 - 2003.05

- Build and admin core systems and services; such as DNS, HTTP, RADIUS, and NNTP running on Solaris, FreeBSD, and Linux.
- Develop and maintain customer usage reports working closely with account team to generate monthly invoices.
- Developed network and server traffic utilization reports helping to ensure adequate service capacity.

Technical Support | Lynxus | Atlanta, GA | 1998 - 2000

Lynxus was a dial-up internet service provider that specialized in providing a family-friendly internet experience.
- Provided over the phone help to customers related to setup and troubleshooting dial-up internet service on Microsoft Windows.
- Developed small applications to assist members of the technical support staff quickly lookup useful information.

- Administration of RADIUS server.