Jacob Kupersmith

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Summary

- Full-stack engineer with over 20 years professional experience working in telecommunications and cybersecurity industries.
- Proficient leading products through the entire software development life cycle, collaborating effectively with cross-functional teams, and working under tight deadlines.
- Experienced developing back-end systems on Linux with a focus on networking, 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.
- Engineered a framework to automate CIS Benchmarks adherence on Linux systems, incorporating pivotal features to assist clients in meeting emerging SEC regulations.
- Formulated detection strategies for zero-day vulnerabilities, including log4j, spring4shell, and Apache struts, aiding clients in pinpointing susceptible systems and applications.
- Developed lightweight agents tailored for deployment on Linux, macOS, and AIX systems, reaching across numerous customer assets and contributing to robust inventory and vulnerability management systems.
- Collaborated with engineering teams and product managers to conceptualize and implement innovative features, ensuring timely and high-quality project deliveries.
- Conducted comprehensive code reviews, implemented unit tests, and collaborated closely with the Quality Engineering team to uphold software reliability.
- Provided mentorship to junior developers, offering technical guidance on best practices and coding standards.
- Conducted technical interviews for both engineering and internship positions.
- Maintained close collaboration with the customer support team and engaged directly with customers.

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

myNetWatchman provides unique identity intelligence solutions, financial fraud and reputation risk management.
- Developed and maintained high volume data processing and machine learning pipelines.

- Managed the development and upkeep of a public web portal and APIs, crucial for delivering core data feeds to customers.
- Constructed and maintained clustered services deployed on on-premises SuperMicro systems, including an 80-node Elasticsearch cluster, a 2PB Ceph storage cluster, a 100-node Proxmox cluster, a 30-node Kubernetes cluster, and multi-node RabbitMQ clusters.
- Designed, built, and supported various smaller-scale database solutions, including PostgreSQL, MariaDB, and Redis.
- Successfully migrated manually scaled data pipeline workers into a Kubernetes cluster, implementing auto-scaling based on workload.
- Designed, built, and provided support for custom CentOS Linux-based routers utilizing iptables and iproute2.
- Supported and improved a 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

- Created and maintained a network monitoring system tasked with delivering real-time alerts to the network operations center and generating reports on service availability, ensuring that core services adhere to the required SLA and contribute to a positive customer experience.
- Collaborated closely with product owners to design intelligent health checks and performance monitoring for their systems and services, equipping engineers with the necessary tools to diagnose and troubleshoot health and performance-related issues.
- Established a repository of open-source software (OSS) packages for Sun Solaris running on SPARC systems, utilizing NetBSD's pkgsrc package manager.
- Led a team of offshore developers during 2009-2010, involving 50% travel, contributing to the delivery of new enhancements to the web reporting and management portal.

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

- Construct and manage fundamental systems and services, including DNS, HTTP, RADIUS, and NNTP, operating on Solaris, FreeBSD, and Linux platforms.
- Create and sustain customer usage reports in collaboration with the account team, facilitating the generation of monthly invoices.
- Formulate network and server traffic utilization reports to guarantee sufficient 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.
- Offered remote assistance to customers for setting up and resolving issues with dial-up internet service on Microsoft Windows via phone support.
- Created compact applications to aid technical support staff in efficiently retrieving valuable information.
- Managed the administration of the RADIUS server.