Sean Kerr

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SUMMARY

Experienced Sr. Full-Stack Engineer with over 2 decades professional experience. Seasoned developer capable of writing clean, maintainable code with attention to application performance. Proficient in TypeScript and Python, with a well-defined understanding of Linux services, network architecture and scalability. Attention focused on AWS cloud services using Terraform. Communicates effectively and is comfortable in a fast-paced environment.

EXPERIENCE

Lead Software Engineer | CartHero

February 2017 - Present, San Diego, California, United States · On-site

• Designed and continuously deployed AWS infrastructure leveraging ELB, Lambda, RabbitMQ, RDS, and Terraform.
• Led development of Python FastAPI REST API, secured with JWTs, deployed as Docker images served by API Gateway to Lambda.
• Configured and integrated Auth0 authentication into Python backend and TypeScript frontend applications.
• Spearheaded development of Python services streamlining Shopify e-commerce order fulfillment, scaled with EC2 Celery workers.
• Implemented webhooks, ensuring 25-50ms TTFB to Shopify, Stripe, NMI, Authorize.net requests, fed into SQS with DLQ redrive policy.
• Developed subscriptions support, creating new customer recurring revenue stream, driving a 40% increase in MRR.
• Led development of 3 customer-facing user interfaces using Vue and React, leveraging PrimeVue and Tailwind CSS.
• Designed and administered PostgreSQL database, continuously optimizing indexes, ensuring query performance.
• Designed Astro website, deployed with Cloudflare Pages, Worker and R2 customer-facing endpoints.
• Implemented industry wide TDD practices using pytest and Mocha to facilitate continuous deployments using GitHub Actions.
• Collaborated closely with major e-commerce brands, implementing time-sensitive critical features, ensuring platform stability.

Software Engineer / Contract | Sunbelt Transformer

August 2015 - February 2017, Sharon, Pennsylvania, United States · Remote

• Successfully migrated a critical ERP system from Rackspace to AWS, with private VPN access, enhancing scalability and significantly reducing costs.
• Deployed AWS infrastructure to maintain and support legacy systems, including the integration of an Oracle database.
• Led development of v2 PHP B2B inventory management platform while ensuring continuity for existing legacy system.
• Implemented improved development workflows through daily deployments to AWS staging environment and local development with Vagrant.
• Transitioned source code management to GitHub, improving version control and collaboration across teams.

Software Engineer / Contract | Airbus Defence & Space Communications

January 2015 - July 2015, Temecula, CA · Hybrid

• Developed Python applications to validate and process real-time 911 emergency call center data.
• Ensured accuracy and timely response, leading to consistently ahead-of-schedule project deliveries.
• Contract extension received due to high performance and reliability in project delivery.

Software Engineer / Contract | SnapSho

January 2014 - December 2014, Encinitas, California, United States · On-site

• Developed C OpenGL ES user interface specific to Raspberry Pi hardware, captured and showcased photos taken by kiosk photo booths.
• Developed Linux bootstrapping services connecting to business Wi-Fi networks and allowing continuous data synchronization with remote services.
• Managed software installation and implemented security protocols for Raspberry Pi hardware deployments, ensuring secure and reliable operations.
• Engineered Python tasks for automating the synchronization of photos with AWS S3 and Glacier.

Software Engineer / Contract | Exzigo

November 2013 - June 2014, Fredericksburg, Ohio, United States · Hybrid

• Designed and deployed AWS ALB, EC2, and SQS infrastructure to support real-time GPS data processing.
• Developed Python services for processing Enfora and CalAmp GPS hardware.
• Designed PostgreSQL/PostGIS database responsible for tracking and locating deployed service fleets.
• Conducted development research responsible for accessing Bluetooth Low Energy (BLE) asset tracking hardware using C programming language.

Sr. Software Engineer │ BlackBerry / LiveProfile

October 2010 - November 2013, New York, New York, United States · Hybrid

• Designed and continuously optimized network and software infrastructures, scaling support from 100,000 to over 50 million concurrent chat users.
• Built lightweight C TLS proxy to replace memory-intensive Erlang TLS handling, significantly reducing memory use.
• Led development of Java communications platform integrated with Erlang chat node cluster, orchestrating platform operation.
• Engineered Python load balancing software to intelligently route chat requests to available servers, optimizing initial connection performance.
• Designed and administered PostgreSQL database, continuously optimizing indexes to ensure operational efficiency at high-scale.
• Involved in frequent customization of Mnesia modules to address crashing caused by evergrowing scaling.
• Developed proprietary Erlang modules and customized existing Ejabbered modules, to support and expand core chat functionality.
• Provided weekly stand-ups, sprint planning, and code reviews.

Sr. Systems Architect │ Emporos Systems

June 2009 - October 2010, Charlotte, North Carolina, United States · Hybrid

• Led development of Python point-of-sale platform, enabling seamless synchronization of customer records from Walgreens and CVS pharmacies.
• Developed proprietary Java library to control Ingenico and VeriFone credit card terminals and IBM SureMark receipt printers, with a focus on performance.
• Led weekly stand-up meetings and frequent code reviews with development team.

Software Developer │ Flicky Media

October 2006 - June 2009, Michigan, United States · Remote

• Developed a high-traffic PHP website, facilitating over 100,000 daily media searches.
• Designed sophisticated web crawling and weighting algorithm to optimize data acquisition for an affiliate marketing platform.
• Administered PostgreSQL database with read-only hot-swap replication, managed daily backups, ensuring data integrity and efficient query performance.
• Administered Red Hat Linux NAS, ensuring performance of and high availability to multimedia.

Software Developer │ Search Systems

June 2001 - October 2006, Newbury Park, California, United States · Remote

• Developed SOAP API services in Java to facilitate background checks with business partners.
• Built B2B customer portal using PHP and JavaScript to provide tax lien searches to customers.
• Administered Red Hat Linux infrastructure responsible for secure online payment processing with Authorize.net.
• Automated error-prone manual data entry processes with bash shell scripts for efficiency.

Web Developer │ Unitek

October 1999 - May 2001, San Fernando, California, United States · Remote

• Developed PHP web applications to enhance interactive learning experiences for Computer-Based Training CD-ROMs.
• Collaborated with a global web development team to align project deliverables and ensure seamless integration across time zones.
• Involved with migration to CVS source code management.

SKILLS

Industry Knowledge: API development, Oauth, JWT, Scalable Architecture, Continuous Integration, Containerization, Relational Database Design

Technology: PostgreSQL, Python, SQLAlchemy, FastAPI, Falcon, Flask, TypeScript, Vue, React, Vite, Webpack, Astro, CSS, HTML5, Git

DevOps: Docker, Firewalls, Networks, AWS - Lambda, API Gateway, ALB, EC2, ECS, ELB, MQ, RDS, Route53, S3, SNS, SQS, VPC, CloudFlare - Custom Domains, Pages, R2, Workers