David Moore

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Backend engineer with experience creating core software at NewtonX, scaling it to hundreds of thousands of users, and maximizing its security. Also led development of distributed software at Amazon. Brought a security-first approach to design and implementation.

SUMMARY OF ACCOMPLISHMENTS AND CORE STRENGTHS

- **Backend Software Development:** Maximized security at NewtonX by developing a zero trust solution from scratch and building its GDPR compliance process. Reduced maintenance burden by leading the migration from self-hosted applications to the cloud. Also helped rebuild software architecture to schedule content on Amazon Prime Video, won 2 President's Club awards while strengthening security at Courion as it migrated to the cloud, and built the software development function at a real estate software company.
- **Software Development Processes:** Enhanced NewtonX's DevOps abilities. Added more rigor to Agile processes at NewtonX and Amazon. Expanded the use of code coverage in build pipelines, and led DevOps engineers to add static application security testing to them. Optimally used AI to speed up software development processes and conduct unit tests.
- **User Relations:** Led creation of software that is easy to use and intuitive. Helped NewtonX land larger clients by maintaining SOC 2 compliance. Reduced significant incidents by over 90%, and pioneered its "gold standard" on-call process and incident response strategy.
- **Communication:** Successfully evangelized new technologies. Wrote comprehensive documentation and user guides that de-tribalized knowledge and sped up user onboarding.

Backend Software Engineering • Identity Integrations • Zero Trust • Software Security • SSO • MFA
Observability • SaaS • Cloud Technologies • Enterprise Software Development • IP Addressing • Routing • SQL Databases
DevOps • CI/CD • Code Reviews • Software Test Plans • Team Building • Training and Mentoring • System Software
BigTable • Cloud Run • Cloud Tasks • Cloudsql • DataFlow • Django • Firestore • AWS • GCS • GCP • GKE • Go • Python • Java
Cloudflare • Pub/Sub • Redis • Spring Boot • Angular • RabbitMQ • Kubernetes • Helm • Jenkins • Docker • Postgres • Pub/Sub

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PROFESSIONAL EXPERIENCE

NewtonX, Inc., New York, NY
Senior Engineering Manager, Senior Staff Software Engineer (October 2019–Present)
Increased security at a leading B2B market research company, and helped it achieve a 4.8 average review score on Google by developing its backend software. Initially created its CRM system's email outreach module, architected it for observability, expanded to all other modules, and scaled the tool from handling from tens of thousands to hundreds of thousands of members of the expert network. Made software development more systematic by adding more DevOps practices.

Core Software Development

- Owned the company's cybersecurity program. Maintained SOC 2 compliance through 3 annual audits and ensured ongoing GDPR adherence. Established enforcement for security training and obtaining background checks.
- Created the company's whole zero trust solution (Cloudflare and Sophos) from scratch, reducing people out of compliance from hundreds to less than 40. Built solution that consolidated data from several sources to prove that company-managed devices meet NewtonX's security standards. Developed scalable process to let IT respond to employees and contractors who fall out of compliance and have their access cut off.
- Further enhanced cybersecurity by ensuring that different systems configure consistently (e.g., all passwords have the same number of characters) and moving them from their own authentication to SSO & OIDC.

- Built the GDPR process, and reduced time to process subject access requests from hours to minutes by writing the guide.
- Created launch guardrails feature that halts the contacting of experts if the launch performs poorly.
- Architected a system that includes a distributed worker process.
- Developed the new CRM tool, which enables internal teams to manage market research projects (replaced the legacy Java-based tool after it had problems scaling). Built all modules, including email outreach, surveying, Zoom meeting invites, and file importing & exporting.
- Improved the CRM tool's security by adding automatic fraud detection and reducing privilege scope (changed from domain-wide Auth to OAuth).
- Designed the company's first Python-based email outreach system, and led the project to implement it. Enabled it to send 200K emails per day by leveraging Celery, RabbitMQ, and Django. Subsequently managed implementation of system that can send 1M emails each day (used Dataflow and Django). Improved the bottom line by $75K by creating the fraud mitigation system.
- Developed web API in Go which accepts emails, saves them in Google Cloud Storage, and publishes them in Google Pub/Sub.
- Reduced maintenance burden by leading the migration from self-hosted software to SaaS, including Google Cloud Build (from Jenkins), AMPQP (from RabbitMQ), and Elastic.co (from NewtonX's own elastic cluster).

Process Improvement & DevOps

- Increased DevOps abilities. Enhanced CI/CD by generating Helm charts for deployments to Kubernetes, established high standards and strict pull requests for unit testing, and helped convert hand-built GCP projects to Terraform.
- Instituted a build-right-first-time development process via more testing rigor and peer reviews.
- Helped lower Google Cloud Platform spend by rightsizing workloads and ensuring that all traffic in the same availability zone is not charged with extra network traffic.
- Sped up software development by creating tools, including pull requests for releasing repositories.
- Saved $1K each month by tuning SQL database to handle the same load with fewer resources.
- Saved $1K per month by switching VPN providers and optimizing infrastructure.
- Reduced "auto-open" incidents and raised team velocity by championing and implementing an "operational excellence" initiative. Found the most frequent pain points for on-call, and reduced spurious auto-open incidents by 90%,
- Created the "gold standard" on-call process and incident response strategy, including ways to prevent recurrence.

Squarespace, New York, NY
Senior Software Development Engineer (April 2019–September 2019)

- Helped create new microservices-based billing system's backend by fixing bugs (including a critical Kafka serialization issue), taking part in on-call meetings, mentoring new engineers, and writing onboarding documentation.

Amazon, New York, NY
Software Development Engineer (September 2017–February 2019)
Helped rebuild distributed software architecture for scheduling content on Amazon Prime Video and configuring it on different systems. Reduced errors and manual effort for the platform, and designed software for fault tolerance.

- Helped develop scheduling tool after the old version reached its scaling limit. Wrote Python scripts to take data from the old tool and reformat it.
- Helped migrate to DynamoDB by adding features and fixing bugs in code.
- Increased the Agile process's rigor, and mentored new hires.

CoreLogic, Knoxville, TN
Team Lead, Software Development Engineer (April 2015–August 2017)
Promoted to team lead at real estate software company for developing backend software, strengthening security, and enhancing product quality.

- Led engineering and security auditing for MLS software for real estate agents. Found vulnerabilities, and explained false positives.
- Rebuilt the central code repository server in AWS, and wrote scripts to convert the code repository to GitGub.
- Resolved critical production issues in widely deployed real estate web application, including load-induced crashes (PDF printing) and image metadata loss. Implemented unit tests to prevent regressions.
- Improved application performance by designing and implementing a new cache structure with verified speed gains.
- Worked as the lead engineer in the customer response team.

Courion, Westborough, MA
Staff Software Engineer, Senior Security Software Engineer, Design Lead, Customer Response Engineer, Security Software Engineer (December 2005–April 2015)
Won several internal awards (including 2 President's Club awards, which were rarely given to engineers) for creating backend software, enhancing security, and delivering customer solutions as the company converted from on prem to the cloud.

- Developed software that provided identity access management, including permission management, provisioning/deprovisioning users' roles, password reset, and self-service account unlocks.
- Proactively identified, analyzed, and remediated security vulnerabilities through code audits, research, and response to external reports.
- Planned and architected security enhancements, including cryptography and hashing upgrades.
- Managed the full lifecycle of security fixes, including test plan creation and execution.

MAPASS, Inc.,
Software Engineer (December 2002–April 2005)
Joined as the first software engineer at startup that made call center app that let real estate agents schedule appointments.

- Architected and developed the core software suite (ASP & SQL Server), integrated it with third-party data links, and ensured that it was secure.
- Built system to automatically send emails.
- Created web app that enabled homeowners to view appointments, and wrote program to pull information from MLS software.
- Provided full IT operational support, and designed the power backup system.

Mentor Graphics Corporation,
Software Developer (June 2001–December 2002)

- Maintained EDA CAD application. Implemented new features and fixed bugs.
- Worked as a build engineer; developed and implemented a new product's installer.

EDUCATION

B.S., Computer Science, University of Illinois at Urbana-Champaign, IL (May 2001)