



Stephen King

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Summary

I'm an experienced software engineer focusing on optimizing processes through inventive ideas, automation, and efficient tooling. I specialize in crafting scalable, maintainable software solutions, emphasizing clean, readable, and reusable code. Whether working independently or in a team, I'm proactive, self-motivated and conscientious.

Key Skills

- **Python**
- Git, GitHub
- FastAPI
- Ansible
- Technical documentation
- Robot Framework
- Automation (QA, AWS, Networks, CI/CD)
- Networking
- Linux, Bash scripting
- Docker
- OpenAPI, REST API's, GraphQL
- Web scraping

Education

- MSc. Biochemistry, University of Reading.
- BSc. Biochemistry with Chemistry, University of Reading.
- 'A' Levels: Physics, Chemistry, Pure Mathematics and Biology.

Professional Qualifications

- Cisco: CCNA, CCNP, CCDA, CCDP
- Citrix: CCA, CCEA

Employment History

Python Developer, Freelance (Oct. 2023 -)

- Currently providing direct independent freelance software development services.

Senior Python Developer, Xilinx Technology (Jan 2020 - Jul. 2023)

- Led a team of developers to design and implement a fully automated Continuous Integration testing and development framework by leveraging FastAPI on AWS EC2, S3, SQS, SNS, and DynamoDB utilizing Python Lambda functions and Boto3 scripts. The finished framework vastly improved the efficiency of teams across the company.
- Streamlined the legacy performance testing framework, seamlessly integrating it into the new environment for enhanced efficiency.
- Automated the laboratory network infrastructure operations by utilizing Python libraries like nornir, netmiko, napalm, and fabric and employed Ansible YAML playbooks and Pulumi Python scripts as robust Infrastructure as Code (IaC) tools.
- Developed comprehensive functional and load tests for web interfaces using Playwright and Locust Python scripts.
- Diagnosed inefficiencies and gaps in existing ecosystems and recommended / implemented remediation through process improvement, automation and tooling.
- Engaged in agile ceremonies including planning, retrospectives, backlog refinement, demonstrations and daily stand-ups.

- Conducted code reviews, provided technical guidance, and mentored junior developers to improve code quality and development practices.

Career Break *(Jan 2019-Nov. 2019)*

This period was taken to renovate the houses and relocate

Automation Engineer, Qualcomm *(Aug. 2016 – Dec. 2018)*

- Resolved issues within the Python framework and test code; identified and remedied bugs discovered. Engineered infrastructure automation software following CI/CD principles.
- Innovated and crafted new features for the automation framework.
- Assisted colleagues in Python code development; delivered training for new users.
- Defined and engineered novel automation tools to optimize testing and debugging efficiency.
- Designed and developed various PyQt6 tools and utilities.
- Attained 100% unit test coverage leveraging Pytest.
- Bolstered and expanded the Automation for Software Configuration Management, Release, and Code Control tools in a complex Engineering setting.
- Managed source code within a distributed Git/Gerrit infrastructure.
- Orchestrated the integration of diverse tools in the toolchain, elevating team velocity while upholding top-notch quality and consistency.

SDET (DevOps), Cisco *(Jul. 2011 – Aug. 2016)*

- Designed, developed and maintained robust automated test suites using Python scripts, Selenium (Python bindings), and other relevant tools to validate software functionality across various platforms and environments. Created and maintained the test infrastructure, frameworks, and tools required for automated testing. This involved writing code to automate tests, ensuring they are scalable, maintainable, and integrated into the development process.
- Designed, coded, and executed automated tests to validate software functionality, performance, and security
- Worked closely with developers to understand the software architecture, design, and implementation. Participated in code reviews, offered insights into testability concerns, and advocated for best practices in testing.
- Collaborated with cross-functional teams to integrate automated tests into the CI/CD pipelines using Jenkins, ensuring continuous and reliable software delivery.
- Implemented and managed configuration management tools such as Ansible playbooks and Puppet manifests to automate deployment and maintain consistency across environments.
- Developed and maintained Linux shell scripts for various automation tasks and system configurations.
- Utilized CouchDB, Memcached, Squid, ETL, ActiveMQ, Redis, and other relevant technologies to create comprehensive test scenarios and perform end-to-end testing of microservice architectures.
- Managed and orchestrated virtualized environments using VMware, VirtualBox, and KVM for testing purposes.
- Utilized containerization in the form of Docker to provide consistent development environments.
- Conducted performance testing using tools like JMeter, ensuring software scalability and efficiency.
- Utilized Logstash, Kibana, Grafana, Graphite, and Prometheus for log management, monitoring, and analysis of system metrics.
- Diagnosed and remediated complex network issues with the aid of Wireshark, tcpdump, and nmap.
- Actively contributed to the identification and implementation of best practices for software testing and quality assurance. Project management and bug tracking was accomplished with the aid of Jira.

SDET, Solarflare Communications *(Mar. 2010 – Jun. 2011)*

- Engineered and implemented an automated test framework in Python, integrating open source and commercial tools to validate the performance and protocol functionality of 10Gb network devices.
- Conducted meticulous comparative performance tests against competitors' products, leveraging Matplotlib to visualize and interpret the results graphically.

- Crafted test specifications based on IETF RFC and IEEE standards, facilitating protocol verification by automating processes with Ixia packet generators.
- Orchestrated the creation and maintenance of reporting dashboards using Django.
- Resolved intricate automation and product-testing challenges, collaborating closely with cross-functional product teams to deploy robust test strategies, plans, and processes.
- Generated product-specific test plans, ensuring comprehensive coverage aligned with precise product requirements.
- Designed and developed web scraping scripts to extract pertinent competitor product data.

QA Automation Engineer, 3Com (Feb. 2009 – Jan. 2010)

- Tested all functional and non-functional aspects of C++ embedded software on a unified security platform, encompassing firewall, Router, web filtering, spam filtering and anti-Virus functionality.
- Utilised Spirent Smartbits packet generators, Avalanche traffic generators and automated tests with Python, Perl and Tcl.

QA Team Leader, Citrix (Dec. 2005 – Dec. 2008)

- Completed many diverse full life cycle testing projects including release 4.5 of Presentation Server, XenApp, XenDesktop, XenServer and Edgesight products.
- Complex server farm environments were generated using VMware with automation scripts.
- Collaborated with product teams to implement and deploy test strategies, test plans, and test processes.

Additional Experience

- Network Support Analyst at BT, responsible for 3rd line support of ISP Network infrastructure.
- Protocol Verification Engineer at 3Com, designing test specifications and maintaining test automation systems for verification of networking protocols with switch and router products.

Projects

Commercially viable IoT product

- Designed from scratch the hardware requirements and software for an original IoT project.
- Investigated the many aspects of commercial IoT projects including legal/patent and manufacturing requirements. Conducted performance testing of numerous Single Board Computers to evaluate computational and power requirements.
- Fabricated a final fully operational prototype demonstrator utilising OpenCV for image recognition along with a Django management interface. Styling being provided by Tailwind CSS.
- Implemented RabbitMQ for front-end and back-end separation.
- Telemetry was provided by MQTT with a Mosquito broker together with Twilio SMS alerting.
- Monitored and stored sensor data in InfluxDB, visualized through Grafana.