Stephen King

Python Developer | SDET

✉ sking.jobsite@gmail.com ▢ 07516 703223 ⬡ github.com/stephen-ra-king in linkedin.com/in/sr-king
📍 Exeter, Devon, UK 🇬🇧

Summary

I am a highly skilled Python developer with over two decades of experience in software development and a solid foundation in pure science. Over the past 13 years, I have focused on Python development, showcasing a track record of enhancing process performance through innovative ideas, automation, and the creation of time-saving tools. As a proactive and self-motivated individual, I excel in both independent and collaborative settings, consistently demonstrating the ability to operate autonomously or within a team. My expertise extends across a comprehensive set of technical skills and I always relish the challenge of learning new technologies.

Key Skills

- **Python**
- Git, GitHub
- FastAPI
- Ansible
- Technical documentation
- Robot Framework

- Automation (QA, AWS, Networks, CI/CD)
- Networking
- Linux
- Docker
- OpenAPI, REST API's, GraphQL, gRPC
- 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: CCEA, CCA

Employment History

Python Developer, Freelance *(Sep. 2023 –)*

- Currently providing direct independent freelance software development services.

Python Developer, Xilinx Technology *(May 2020 – Jul. 2023)*

- Designed and developed a fully automated and integrated testing and development infrastructure framework utilizing a FastAPI management and orchestration system on AWS EC2, S3, SQS, SNS and DynamoDB. The orchestration being performed with python Lambda functions and Boto3 scripts.
- Integrated and improved the legacy performance test system into the new environment.
- Designed, developed and debugged desktop application tools and utilities with PyQT6.
- Automated network infrastructure with Python libraries: nornir, netmiko, napalm and fabric.
- Utilized Ansible YAML playbooks along with Pulumi Python scripts as IaC tools. .
- Source code maintained on GitHub using GitHub flow. CI/CD utilizing workflows and Actions. GitHub webhooks being used to trigger events in the FastAPI orchestration system.
- Designed and developed Web interface functional and load tests with the aid of Playwright and Locust python scripts.
- Identified inefficiencies and gaps in existing ecosystems and implemented processes and tools to remove them.
- Participated in agile ceremonies: planning, retrospectives, backlog refinement and daily stand-ups.

Self employed *(Oct. 2019 – Apr. 2020)*
- 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.
- Decoupling of front and back ends was achieved by using RabbitMQ.
- Telemetry was provided by MQTT with a Mosquito broker together with Twilio SMS alerting.
- Sensor status being constantly monitored and stored in InfluxDB & displayed using Grafana.

Career Break *(Jan. 2019 – Sep. 2019)*
This period was taken to renovate the house and relocate.

Software Engineer, Qualcomm *(Aug. 2016 – Dec. 2018)*
- Debugged issues with the Python framework and test code; defined and fixed bugs found. Designed and developed new features of the automation framework.
- Ensured Python environments were up-to-date and compatible with the latest language developments, and with other environments used across the company with which it interfaced.
- Supported colleagues with Python code development. Provided training for new users.
- Defined and developed new automation tools to make testing and debugging more efficient.
- Achieved 100% unit test coverage with the aid of Pytest.
- Converted and updated legacy Python scripts and libraries from version 2 to 3.

SDET (DevOps), Cisco *(Jul. 2011 – Aug. 2016)*
- Designed, developed, coded and debugged automated environments for both Development and QA departments which had a large impact on the agile Kanban two-week cadences.
- Supported DevOps by providing tooling, monitoring dashboards and process automation.
- Automated microservice deployment by providing Ansible playbooks, Puppet manifests, Python scripts and Linux shell scripts.
- Supported a challenging microservice infrastructure which utilised a multitude of technologies including: Oracle and Vertica DB's, CouchDB, Memcached, Squid, ETL, ActiveMQ and Redis. Virtualized environments were provided by VMware, VirtualBox and KVM.
- Utilized containerization in the form of Docker to provide consistent development environments.
- Automated QA tests used by the Jenkins CI/CD pipelines.
- Automated Functional web interface tests with Selenium (Python bindings).
- Utilized Apache JMeter for performance testing.
- Monitored microservices with the aid of Elasticsearch, Logstash, Kibana, Grafana, Graphite and Prometheus.
- Developed and maintained an ETL pipeline for the collection of customer usage data and the delivery into a Vertica database fact and dimension tables.
- Project management and bug tracking was accomplished with the aid of Jira.

QA Automation Engineer, Solarflare Communications *(Mar. 2010 – Jun. 2011)*
- Developed and coded an automated test framework in Python which along with open source and commercial tools were used to verify performance and protocol functionality of 10Gb network devices.
- Performed comparative performance test analysis against competitor's products and generated graphical interpretation of the results using Matplotlib.
- Created Test specifications from IETF RFC and IEEE specifications for protocol verification and subsequent automation with the Python Scapy library and Ixia packet generators.
- Developed and supported various reporting dashboards utilizing Django.
- Solved automation and product-related testing issues; Collaborated with product teams to implement and deploy test strategies, test plans, and test processes.
- Generated product-specific test plans and drove test coverage based on product requirements.
- Designed and developed web scraping scripts to extract competitor product related 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.

Network Support Analyst, BT *(Dec. 2004 – Oct. 2005)*
- Responsible for 3rd line support of the ISP Network infrastructure components.
- Diverse equipment base supported including Cabletron 8000 routers, Cisco Catalyst 5000/5500 Cisco 7500's, F5 BigIP, Nokia ip650 and checkpoint-1.
- Implemented an "Acceptance into Service" procedure for newly installed networks: A comprehensive set of tests to confirm supportability.

Protocol Verification Engineer, 3Com *(Dec. 1998 – Dec. 2004)*
- Created test specifications utilising 3Com design documentation and specifications from the following standards bodies: IANA, IETF and IEEE.
- Designed test specifications for agent features and packet level protocol functionality for the following: VLAN tagging (802.1q), GMRP (802.1P), Spanning Tree (802.1d), Aggregated links (802.3ad), QoS, IGMP, SNMPv2c & v3, IGMPv3, Syslog, QoS, SNTP and 802.1x
- Identified areas for test automation. Maintained and updated existing test automation systems utilizing JavaScript.
- Participated in high level test planning and forecasting activities. Generated clear concise written reports of testing activities, progress of assigned areas of responsibility and product defects.