

Trilok Bhattacharya

Software Engineer

hi@trilok.dev • London, UK • [LinkedIn](#) • [Portfolio](#)

SKILLS

Languages: C++, C, Python, C#, Bash, Shopify Liquid, T-SQL

Tools & Cloud: Docker, Kubernetes, KVM/QEMU, MSSQL, Azure, Git, GitLab CI/CD

EXPERIENCE

Software Engineer

TP ICAP

Dec 2024 - Present

London, UK

- Optimized and created new GitLab CI/CD pipelines, achieving a 30% reduction in build times and enhancing deployment efficiency through comprehensive unit test reports
- Migrated the in-house Axiom application from 32-bit to 64-bit architecture, refactoring over 50,000 lines of code, using design patterns (e.g., Factory, Singleton, Observer) and modern practices such as RAII, smart pointers, and move semantics
- Developed a native thread-safe C++ logger using Boost.Log with runtime configuration reloading to replace different loggers across projects

Software Engineer

Commvault

Jan 2022 - Sep 2023

Bengaluru, India

- Collaborated as a tester and developer on 20+ revenue generating projects to develop and test efficient and fault resistant components in C++, used by 100+ customers monthly
- Improved user experience by upgrading 20+ customer-facing APIs and Shopify Liquid templates on a legacy C# backend
- Managed 3 critical projects from design to testing and mentored 5 junior developers on Python and Kubernetes
- Handled testing and monitoring of more than 20 Kubernetes customer escalations independently for Metallic SaaS offering

Associate Software Engineer

Commvault

Jul 2021 - Jan 2022

Bengaluru, India

- Implemented and maintained an automation framework along with a 5-member test team, using Selenium and Python to test backup and recovery of Kubernetes workloads, while contributing to the open-source *cvpysdk* python library
- Developed an internal tool using Bootstrap, PyODBC, Python and MSSQL to streamline one-click automation testing with patch installation, test suite iteration and test history reporting, to reduce manual validation of patches by 2 hours

Software Engineering Intern — Test Automation

Commvault

Oct 2020 - Jun 2021

Remote, India

- Conducted manual and automated testing of backup and restore capability of the Commvault software for Linux Filesystem
- Created and managed on-prem (Hyper-V, vSphere) and cloud (Azure, AWS, GCP) Kubernetes automation test suites

Machine Learning Intern

HighRadius Technologies

Jul 2020 - Oct 2020

Remote, India

- Developed a full-stack invoice management application using ReactJS, JDBC, Java, and JSP. Integrated with an ML model to predict partial payments, and digital assistant to provide insightful answers, as a part of Industry Internship

PROJECTS

Adaptively Streaming QCoW2 Disks in QEMU, github.com/trilok10/adaptive-streaming

Mar 2024 - Sep 2024

- Investigating and evaluating the drop in performance during snapshot streaming of QEMU QCoW2 disks and implementing novel *adaptive streaming* method to reduce the impact of streaming

Implementing Conflict Driven Clause Learning Using C++, github.com/trilok10/cdcl

May 2024

- Implemented the CDCL algorithm in C++, with lemma learning and back-jumping, to solve satisfiability problems

Issues Reported to Kubernetes Project, [github.com/issues](https://github.com/kubernetes/kubernetes/issues)

Aug 2021

- Pod sandbox creation fails when sum of Namespace and Pod name is more than 217 characters (*Issue: 104288*)
- StatefulSet name accepts DNS subdomain standard, but StatefulSet controlled Pods does not (*Issue: 104195*)

EDUCATION

University of Manchester

Master of Science in Advanced Computer Science, GPA: 78/100 (Distinction)

Sep 2023 - Sep 2024

Manchester, UK

- One of the 15 recipients of the *Engineering the Future Scholarship*, awarded to academically excellent international master's students, within The Faculty of Science and Engineering, from South Asia, South-East Asia and Africa

Kalinga Institute of Industrial Technology

Bachelor of Technology in Computer Science & Engineering, GPA: 9.68/10

Apr 2017 - Jul 2021

Bhubaneswar, India

- Presented a paper on *Social Group Optimization for Cluster Head Detection in Underwater Sensor Networks* at ICFNDS 2021