

Trilok Bhattacharya

Software Engineer

hi@trilok.dev • Manchester, UK • LinkedIn • Portfolio

EDUCATION

University of Manchester

Sep 2023 - Sep 2024

Master of Science in Advanced Computer Science, GPA: Distinction (Expected)

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.
- **Courses:** Cybersecurity, Data Engineering, Cryptography, Software Security, Automated Reasoning.

Kalinga Institute of Industrial Technology (KIIT)

Apr 2017 - Jul 2021

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

Bhubaneswar, India

- Presented major project as a paper on *Social Group Optimization Based Cluster Head Identification in Underwater Sensor Networks* in ICFNDS 2021.

EXPERIENCE

Software Engineer - II

Jan 2022 - Sep 2023

Commvault

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.
- Influenced the debugging and patching of 200+ customer escalations as a part of the Q/A team, reducing recurring issues.
- Upgraded over 20 customer-facing APIs and templates utilizing Shopify Liquid, built on an existing legacy C# backend, resulting in an improved user experience.
- 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.

Software Engineer - I

Jul 2021 - Jan 2022

Commvault

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.

Intern, Software Development Engineer in Test

Oct 2020 - Jul 2021

Commvault

Remote, India

- Conducted manual and automated testing of backup and restore capability of the Commvault software for Linux Filesystem.
- Verified protection and recovery of different Kubernetes distributions and validating licensing model implementations.
- Created and managed on-prem (Hyper-V, vSphere) and cloud (Azure, AWS, GCP) Kubernetes automation test suites.

Intern, Machine Learning

Jul 2020 - Oct 2020

HighRadius Technologies

Bhubaneswar, India

- Conducted data exploration and model training to predict partial payments for B2B transactions and analysed the interpretability of ML models using Local Interpretable Model-Agnostic Explanations (LIME).
- 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 - Sept 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, under the guidance of Dr. Pierre Olivier.

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.

Feature Testing Kubernetes Release Versions: Issues Reported, [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*)

SKILLS

Programming Languages: C++, C, Python, Bash, MSSQL, Shopify Liquid

Tools & Cloud: Docker, Kubernetes, KVM/QEMU, Azure, Git

Testing: Manual Testing, Automated Testing (Scripting, Selenium), Penetration Testing