

Mantosh Kumar

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Professional Summary

Staff Software Engineer with 14+ years of experience building automation platforms, validation infrastructure, engineering tooling, and software systems across telecom, networking, and enterprise technology domains.

Experienced in platform engineering, workflow automation, Python development, CI/CD, observability, and engineering productivity. Proven track record of building reliable engineering platforms, improving execution reliability, and transforming operational data into actionable insights for engineering and release teams.

Technical Skills

Languages: Python, Java, C++, SQL

Backend & APIs: Django, PostgreSQL, REST APIs

Platform Engineering: Linux, Git, CI/CD, Automation Frameworks, Workflow Automation

Networking: SDN, NFV, OpenDaylight, Mininet, Wireshark, 3GPP

AI & Analytics: Generative AI APIs, Quality Analytics, Engineering Intelligence

Professional Experience

Nokia Corporation

Staff Software Engineer

Ottawa, Canada

Aug 2020–Present

Built automation platforms, validation infrastructure, and engineering tooling for optical networking products.

- Architect and maintain automation-first validation platforms supporting continuous verification of networking software and hardware.
- Led migration of a legacy automation framework containing thousands of test cases to a modern CI/CD-integrated platform.
- Developed Python-based automation frameworks, CI/CD-driven workflows, and distributed validation infrastructure supporting large-scale automated test execution.
- Built observability, analytics, reporting, and AI-assisted engineering tools that automate failure investigation, build-health analysis, and transform execution data into actionable quality insights.
- Improved platform reliability and release confidence through root-cause analysis, workflow hardening, observability enhancements, and close collaboration with developers, architects, and release stakeholders.
- Mentored engineers and participated in technical interviews.

KI labs GmbH

Software Engineer - Backend

Munich, Germany

May 2018–Nov 2019

Developed backend services and REST APIs for a B2B chemical marketplace serving customers across Europe.

- Developed backend services and REST APIs using Python, Django, and PostgreSQL.
- Designed and implemented business workflows for customer onboarding, regulatory compliance, customer verification, and risk-based order validation.
- Built and maintained database models while establishing coding standards, code review practices, and testing guidelines to improve software quality.
- Collaborated with product managers and frontend engineers to deliver end-to-end platform features.

Siemens AG

Research Intern

Munich, Germany

Feb 2017–Sept 2017

Conducted master's thesis research on SDN and NFV as part of an EU Horizon 2020 industrial networking research program.

- Designed and developed REST-based control interfaces for intent-driven network management and orchestration.
- Built proof-of-concept solutions for network monitoring, intent specification, and quality-of-service validation on SDN/NFV infrastructure.
- Implemented and evaluated networking solutions using OpenDaylight, Mininet, RESTCONF, and YANG.

Intel Corporation*Software Engineer (Part-time)***Munich, Germany***Feb 2015–Feb 2017*

Built engineering tools and automation solutions supporting the development and validation of Intel's XMM 7360 modem platform.

- Developed tools for decoding, visualizing, and analyzing cellular communication messages and modem performance metrics.
- Built the initial version of a unit-level automation framework supporting modem software validation.
- Derived test requirements, validation scenarios, and automation scripts from 3GPP specifications and product requirements.
- Automated project status monitoring and reporting workflows, improving engineering visibility and reducing manual effort.

Cisco Systems*Software Engineer***Bangalore, India***Jan 2012–Sept 2014*

Developed simulation and automation tools supporting packet core networking solutions for mobile communication systems spanning 2G, 3G, LTE, Wi-Fi, and eHRPD technologies.

- Developed and enhanced Python-based simulation tools used to model packet core network behavior.
- Built automation solutions supporting telecom networking feature validation and execution workflows.
- Analyzed network traffic and protocol interactions using Wireshark and related engineering tools.
- Developed test scenarios and automation workflows from product requirements and networking specifications.

Aricent Group*Software Engineer***Bangalore, India***Jan 2011–Jan 2012*

Contributed to the development of a unified social networking prototype that was later showcased at Mobile World Congress 2012.

- Integrated Facebook and location-based services to enable location-aware social publishing and social networking features.
- Analyzed requirements and designed use cases and workflows for platform integration.

Education

Technical University of Munich*Master of Science, Computer Science***Munich, Germany***2014–2017*

Thesis: Software Defined Networking (SDN) and Network Function Virtualization (NFV)

West Bengal University of Technology*Bachelor of Technology, Computer Science***Kolkata, India***2006–2010*

Awards & Recognition

- **Intel Heroes of Tomorrow Award (2016)** – Received twice for outstanding engineering contributions.
- **GATE (Computer Science)** – Ranked in the top 1% nationally among more than 150,000 candidates in 2012 and 2013.