

Nilkamal Thakuria

+91 6000545528 | nilkamalthakuria2902@gmail.com | [linkedin.com/in/nilkamalthakuria](https://www.linkedin.com/in/nilkamalthakuria)

EDUCATION

Birla Institute Of Technology And Science (BITS Pilani)

B.E. in Computer Science & M.Sc. in Physics; Dual Degree

Pilani, India

Aug 2018 – May 2023

EXPERIENCE

Software Engineer

Aug 2023 – Dec 2025

Cisco

Bengaluru, India

- Backend Software Engineer on Cisco IOS-XR network operating system; core contributor across telemetry pipelines, control-plane networking, and platform services in C/C++.
- Reduced end-to-end telemetry data latency by 83% (30 min → under 5 min) and improved overall system throughput by 70% via IPC optimization, bulk API batching, and in-memory caching strategies.
- Implemented and extended OpenConfig support for YANG data models across IOS-XR OS components and management interfaces (CLI, NETCONF, gNMI), enabling vendor-agnostic configuration and streaming telemetry across carrier-grade platforms (Cisco 8000, ASR 9000, NCS series) and cloud-native/virtual deployments (XRv, XRd).
- Maintained and enhanced the IOS-XR control-plane networking stack — IPv4, IPv6, VRF, static routing, ping, and traceroute — by resolving production defects, delivering feature enhancements, and ensuring high availability across distributed systems.

Software Intern

Jan 2023 – Jun 2023

Cisco

Bengaluru, India

- Built Python-based test automation and validation frameworks for YANG-driven configuration and telemetry pipelines, improving protocol correctness, data consistency, and cross-platform interoperability.

Software Intern

May 2022 – Dec 2022

Bicycle.ai

Hybrid

- Built a production-grade ELT Java source connector for Elasticsearch from scratch with JUnit test coverage; contributed the connector to Airbyte, an open-source data integration platform.
- Integrated Kubernetes Event-driven Autoscaling (KEDA) to enable custom metric-based autoscaling and developed Java-based DevOps workflows leveraging Google Cloud Pub/Sub, Compute Engine, and Kubernetes Engine APIs.
- Architected a distributed load testing framework for Apache Kafka using JMeter and Docker, with horizontally scaled load injectors on Google Kubernetes Engine (GKE).

PROJECTS

Cisco HackAIFest'25 — BugInsights | Winner / 30+ teams

Aug 2025

- Built an AI-powered bug analytics tool that ingests, cleans, and summarizes historical bug data using custom GPT-4o prompts; embeddings stored in ChromaDB for semantic retrieval.
- Implemented a HDBSCAN algorithm clustering pipeline over bug summary vectors to group related issues; used GPT-4o to generate concise labels on cluster representatives, surfacing actionable issue categories.
- Delivered a Streamlit-based dashboard with graph reports filterable by component, timeline, and severity, enabling engineering managers to identify systemic problem areas across teams.

StudyDeck | React, Redux, Material-UI, FullCalendar.js

Jul 2020

- Built and deployed a live web app enabling students to create, visualize, and manage personalized class timetables, with state management via Redux and a Material Design UI.

TECHNICAL SKILLS

Languages: C, C++, Python, Java, Javascript, SQL

Networking & Protocols: YANG, OpenConfig, NETCONF, gNMI, gRPC, IPC, IPv4/IPv6, VRF, Telemetry, IOS-XR

AI: LangChain/LangGraph, RAG, Vector Databases (ChromaDB/FAISS), OpenAI/Anthropic APIs, Agentic Workflows, LLM Evals

Cloud and Developer Tools: Git, Docker, CI/CD, Google Cloud Platform, Amazon Web Services, Kubernetes, Apache Kafka, Redis