

Nikhil Singh

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EDUCATION

Gautam Buddha University

Master's of Technology in Software Engineering (8.83 CGPA)

Bachelor's of Technology in Computer Science Engineering

Greater Noida, UP

Aug. 2023 – May 2025

Aug. 2020 – Aug. 2023

EXPERIENCE

Product Engineer

Juspay Technologies

June. 2025 – Present

Bengaluru, KA

- Hired through open-source contributions to Juspay's Nix ecosystem.
- Working with the UPI team implementing business logic and APIs in Haskell for payment processing workflows.
- Nixified and maintained internal projects across multiple stacks (Rust, Python, Haskell), enabling reproducible builds and deployments.
- Contributed to open-source projects: **Hyperswitch** (payment orchestration platform) and **Omnix** (internal tool for Nix-based CI automation).
- Improved developer workflows and CI/CD reliability by building declarative environments and reducing drift.
- Provided ongoing support and tooling for cloud-native reproducibility, ensuring minimal breakage and scalable system design.

Researcher — Systems & Software Engineering

Gautam Buddha University

May 2023 – May 2025

Greater Noida, UP

- Published IEEE paper: *Modularity and Lazy Evaluation in NixOS: A Functional Approach to Operating System Configuration* [IEEE Xplore].
- Built reusable NixOS configuration modules across diverse hardware, focusing on reproducibility, caching, and deployment automation using Nix flakes.
- Co-authored IEEE paper: *Machine Learning-Based Prediction of Heavy Rainfall Days in the Northern Himalayas: A Case Study of Shimla, Srinagar and Kargil* [IEEE Xplore].

Other Professional Experience

Multiple Roles

2023 – 2024

Remote & Greater Noida

- Software Developer Intern at DECET Technology — built Flask REST APIs, Go CLI daemons, and automated Linux server workflows.
- Conducted workshops on Nix-based reproducible environments and Git workflows for 100+ students.

PROJECTS

Open Source Contributions | Rust, Bash, Nix, Git

Ongoing

- Maintainer of Tmux Minimal Status (110+ stars).
- Contributed patches and package maintenance to Hyprwm Contrib, AUR, and Nixpkgs.

Ndots & Nvix | Nix, Neovim

2024 – Present

- Built modular NixOS configs (**flake-parts**, **disko**, **impermanence**) for reproducible deployments.
- Developed declarative Neovim distribution with modular profiles and plugin integration.

Custom Android Build System | CI/CD, Java, Linux

2019 – 2022

- Automated custom ROM builds and OTA packaging with Jenkins across multiple devices.
- Debugged AOSP/kernel build issues and managed patch workflows.

SKILLS

Programming Languages: Rust, Go, Haskell, Java, Bash, Python, C/C++, Nix

Infra & Automation: NixOS/Flakes, Cachix, Disko, Docker, GCP, Jenkins, GitHub Actions

Developer Tools: Git, Neovim, Tmux, VSCode, QEMU, SSH

Databases: MySQL, MongoDB (Mongoose)

Frameworks: Flask, Node.js, Svelte

Core Expertise: Reproducible builds, declarative infra, CI/CD pipelines, minimalist system design, debugging, open-source contributions

Highlights: 2 IEEE publications, open-source maintainer, production infra experience at scale