

# Prabhat Vilas Karlekar

Software Engineer with 3+ years of experience, specializing in cryptographic, scalable AI/ML, distributed systems and HPC solutions, with exposure to CI/CD, and Agile delivery. Proven ability to build time-series forecasting models, RNN and in QA automation. Passionate about system designs, architecture in production-ready environments, seeking to leverage my skills to build real-world distributed applications.

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**GitHub:** github.com/PrabhatKarlekar

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## EXPERIENCE

### Centre for Development of Advanced Computing (C-DAC)

Pune, MH

#### • Project Engineer – HPC I&E

Oct 2024 - Present

- Designed, Architected and implemented federated learning framework, integrating multikey CKKS homomorphic encryption with Keras/TensorFlow (GRU/LSTM models) on real data, achieving 85%+ accuracy through hyperparameter tuning and feature engineering, reduced privacy leakage by 80%.
- Worked extensively in Linux environments, leveraging shell/Bash scripting, C/C++, OpenFHE, Python and Makefile for distributed and high-performance computing environments.
- Analysed data center energy KPIs (PUE, WUE etc.) via time-series pipelines, forecasting UPS power usage.
- Developed stealth address system using PKI, demonstrating transaction privacy and unlinkability in decentralized networks.

**Tech:** SDLC, NumPy, Pandas, sklearn, CI/CD, Git

### Reliance Jio Platforms Limited

Navi Mumbai, MH

#### • JioCloud – Quality Analyst

Dec 2023 - Sept 2024

- Worked closely with QA and platform teams to designed and execute test scenarios, reducing manual regression testing and accelerating feature deployment cycles in Agile environments.
- Collaborated with cross-functional engineering teams, improving defect triage, root-cause analysis, and release stability by investigating defects, reproducing issues, and validating fixes across system components.

#### • Graduate Engineer Trainee

Dec 2022 - Nov 2023

- Gained hands-on exposure to cloud platforms, DevOps workflows, and production monitoring practices, improving system stability and user experience.
- Adapted testing strategies to changing requirements in fast-paced environment to execute UAT and API testing, reducing issue resolution through knowledge sharing and test case optimization.

**Tech:** STLC, CharlesProxy, DevOps, Log Analysis, UAT, Bug Reporting, Test Case Design

## EDUCATION

B. Tech (CSE) - DBATU Lonere, MH

9.06 CGPA | Jul 2018 - Aug 2022

XII - Computer Science - MSBSHSE

62.15% | Apr 2017 - May 2018

X - Science - CBSE

9.8 CGPA | Apr 2015 - May 2016

## SKILLS

**Programming Languages:** Python, C/C++, Rust Basics

**Other Skills:** DSA, GitHub/Gitlab, Computer Networking, Postman, Pytest, Mongoose, Smart Contracts, SHA

## PROJECTS & PUBLICATIONS

### Privacy-Preserving Quantum Secure Federated Learning based on Multikey CKKS HE

Oct 2025

### Time-Series Machine Learning on HPC

May 2025

- Evaluate LSTM and GRU models to improve model performance and generalizability across varying heterogeneous conditions.

### Blockchain via Stealth Addresses: PKI Approach

Nov 2024

### Blockchain Based E-Voting System

Jul 2021 - Jul 2022

- Developed a blockchain-based e-voting web application system so that voters can securely vote from anywhere there is an Internet connection which prevents tampering as blockchain is publicly verifiable and distributed.

## EXAMS & CERTIFICATIONS

AI Upskilling: Technical Foundation

Jan 26 | Qualcomm Academy

Machine Learning for Cyber Security

Oct 25 | C-DAC Hyd

Agile Project Management | Foundations: Data, Data, everywhere | Introduction to Git & GitHub | The Bits & Bytes of Computer Networking | Crash Course on Python

Feb 23 - Oct 23 | Google - Coursera

Linux Fundamentals | Python Programming

Jun 23 - Jul 23 | Coursera

Blockchain Essentials | Introduction to DevOps | Data Analysis with Python

Oct 22 - Sept 23 | IBM - Coursera