

# RUCHIR KALOKHE

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## CAREER OBJECTIVE

AI/ML engineer passionate about exploring emerging technologies—from deep learning and quantum computing to modern web frameworks—driven to build innovative solutions for real-world challenges.

## EDUCATION

**PES Modern College of Engineering (Savitribai Phule Pune University)**

Pune, India

Aug 2023 – Jun 2027

Bachelors of Engineering, Artificial Intelligence and Data Science

**Hutchings High School & Junior College**

Pune, India

High School Diploma, Graduation Year: 2021

Sep 2008 – May 2021

- Percentage: 84%

## CORE STRENGTHS

- AI/ML Engineering:** Developed GANs for SAR colorization (78% accuracy) and deep learning models with TensorFlow; experienced with PyTorch, AutoML, and predictive modeling.
- Full-Stack Development:** Built production systems with Express.js, TypeScript, PostgreSQL; proficient in React, Next.js, Vue.js, and modern web frameworks.
- Problem-Solving & Adaptability:** Rapid learner of emerging tech (Streamlit, LangChain, RAG, Groq); implemented quantum cryptography (BB84) and concurrency control.
- Technical Leadership:** Led architecture design for RAG 2.0; mentored hackathon teams (Top 45, Top 25); coordinate cross-functional development.
- Domain Expertise:** Deep Learning, Quantum Computing (Qiskit), RESTful APIs, Database Design, Git

## PROJECTS

### MineX (Ongoing) - Smart India Hackathon 2025

- AI-driven LCA tool for sustainability analysis in metallurgy using AutoML and predictive modeling
- Developed ML pipeline with data modeling workflows; shortlisted (Top 25) in internal SIH 2025

### Surefy - Event Management System

- RESTful API with Express.js, TypeScript, PostgreSQL, and Bun for event management
- Implemented transaction-based concurrency control to prevent overbooking
- GitHub: <https://github.com/ruxir-ig/surefy-assignment>

### SAR Image Colorization - Smart India Hackathon 2024

- PyTorch and GAN-based model to colorize grayscale SAR images into RGB representations
- Top 25 in internal SIH 2024; 78% accuracy | GitHub: <https://github.com/ruxir-ig/SAR-Image-Colorization>

### VERBALIZE Lip-Reader

- Deep learning for silent speech recognition through lip movement analysis using TensorFlow
- 92% accuracy | GitHub: [https://github.com/ruxir-ig/VERBALIZE\\_Lip-Reader](https://github.com/ruxir-ig/VERBALIZE_Lip-Reader)

### Quantum Key Distribution (QKD) Simulator

- Dual implementation: TypeScript/Next.js and Python/Streamlit for BB84 protocol simulation
- GitHub: [https://github.com/ruxir-ig/QKD\\_sim](https://github.com/ruxir-ig/QKD_sim) | <https://github.com/ruxir-ig/qkd-sim-py>

## CERTIFICATIONS

- Full Stack Open 2024** - University of Helsinki (In Progress) - React, Node.js, GraphQL, TypeScript
- Python 3.4.3, JavaScript, Java** - Spoken Tutorial, IIT Bombay - Certificates of Completion of Training

## ACCOMPLISHMENTS

- Smart India Hackathon 2025** - MineX project (Top 25) | **Smart India Hackathon 2024** - SAR Colorization (Top 25)
- HackRx Hackathon** - Mentored team ranked Top 236th | **GeeksVishwa (VIIT)** - Ranked 23rd
- Open Source** - Contributed to ascii-view (137+ stars), gitget-backend, and multiple GitHub projects