

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 Sep 2008 – May 2021
High School Diploma, Graduation Year: 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
- Website: <https://circular-metal-lab.vercel.app/>

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

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-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** - Top 25 in internal SIH 2025 (MineX) and internal SIH 2024 (SAR Colorization)
- **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