# Kumar Naman

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## **Professional Summary**

Full-stack developer with 1.5+ years of experience building AI-driven solutions and web applications. Specialized in advanced data analysis, end-to-end machine learning solutions, and modern web application development. Proven track record of creating high-performance applications with Next.js, React, and Python that improve efficiency and deliver measurable business results.

#### **Experience**

#### **VyomChara Pvt. Ltd. - Software Engineer Trainee**

Noida · Jan 2024 – Present

- Engineered company website using Next.js 14 and TypeScript, achieving 70+ Lighthouse score with 99.9% uptime supporting 3K+ monthly visitors
- Boosted organic traffic by 25% through strategic SEO optimization of meta tags, image alt-text, and URL structure
- $\bullet$  Developed end-to-end hyperspectral analysis pipeline for mineral classification, reducing manual identification time by 60%
- Implemented custom distance matching algorithms comparing unknown mineral samples against reference library with 85% accuracy
- Optimized web performance through Suspense-based code-splitting, increasing page load speed by 40% across devices

#### **TEXMIN, IIT ISM Dhanbad - Project Intern**

Aug 2023 – Jan 2024

- Analyzed 10+ academic papers on hyperspectral mineral classification, benchmarking model performance on EO1-Hyperion datasets
- Authored comprehensive comparison report of deep learning models for mineral classification, identifying RPNet-RF as 15% more accurate
- Mastered hyperspectral camera operation, capturing and processing high-resolution spectral data from 7+ mineral types
- Transformed raw hyperspectral data into reflectance curves, developing preprocessing techniques that improved analysis accuracy by 30%

## **Projects**

#### Enhanced SRGAN Pipeline · Python, TensorFlow

- Architected custom Super-Resolution GAN with 16 residual blocks, achieving 4x image enhancement with PSNR score above 25
- $\bullet$  Combined pixel-wise MSE, perceptual loss (VGG19), and adversarial loss, outperforming traditional upscaling methods by 35%

# **3D CNN Mineral Classifier** · PyTorch, CUDA

• Developed 2D CNN to classify 7 mineral categories with 91% F1-score, optimizing model using Adam optimizer and cross-entropy loss

#### **Technical Skills**

Languages: Python, C++, JavaScript/TypeScript, HTML5, CSS3

**Frameworks & Tools:** React, Next.js, Flask, Three.js, Docker, Kubernetes, Git, GitHub Actions, AWS, Vercel **ML & Data:** TensorFlow, PyTorch, scikit-learn, GANs, CNNs, Hyperspectral Data Analysis, Data Visualization

Platforms: Linux, NVIDIA Jetson, Raspberry Pi, PX4/ArduPilot UAV stacks

#### Education

Kalinga Institute of Industrial Technology (KIIT) - B.Tech. CSE CGPA: 7.0/10.0

Sep 2022 – Jul 2026 (expected) Bhubaneswar, India

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