

# Himanshu singh

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## EDUCATION

### **Bachelor of Technology (B.Tech) in Electronics and Computer Science**

KIIT University, Bhubaneswar, India

Expected Graduation: May 2026 | CGPA-7.18

Relevant Coursework: Artificial Intelligence, Data Science, Machine learning, Data Analysis

## EXPERIENCE

### **Research Intern**

Indian Institute of Technology Bhilai, Bhilai, CG | May 2024 – August 2024

- **Developed a deep learning framework for image forgery detection**, processing images daily and improving accuracy by 15% over previous methods.
- **Built a machine learning solution using CNN and GAN**, increasing detection accuracy by 15% and maintaining a faster processing time of every image.
- **Managed and processed over 1,000 dataset images**, organizing data for training and evaluation, accelerating model development.
- Enhanced model performance by implementing advanced validation techniques and optimizing algorithms, resulting in a 30% reduction in processing time and improving the efficiency of data analysis for high-priority projects.
- **Accelerated model tuning speed by 30%** using TensorFlow and PyTorch optimizations.
- Streamlined workflow processes, resulting in a 25% boost in project throughput and efficiency.

## PROJECTS

### **Sentiment Analysis** | July 2024

- Constructed a sentiment analysis tool analyzing text from 100+ URLs with 95% accuracy.
- Streamlined the analysis process by integrating results from over 100 data sources into the dashboard, enhancing evaluation speed by 12% and providing real-time insights for strategic decision-making.

### **Binary Bit Autoencoder** | June 2024

- Optimized a neural network model for encoding and decoding binary data, achieving 90% reconstruction accuracy and enhancing performance and stability.
- Integrated binary cross-entropy, mean squared error, and LPIPS perceptual loss functions into the model, boosting performance by 15% and improving training quality.

### **Image Reconstruction** | May 2024

- Advanced image autoencoder development with PyTorch, achieving 95% reconstruction accuracy.
- Designed an encoder-decoder framework with loss functions, enhancing reconstruction quality by 20% and increasing workflow efficiency by 30%.

## SKILLS

**Programming Languages:** Python (Proficient), C, SQL

**Tools:** Git, GitHub, PyCharm, Jupyter Notebook, Google Colab

**Frameworks/Platforms:** PyTorch, TensorFlow, Microsoft Azure, Flask

**Libraries:** Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn, OpenCV

**Specializations:** Data Analysis, Machine Learning, Neural Networks, NLP, Transformers

**Operating Systems:** Ubuntu, Windows

### Soft Skills

- Developed an image management protocol, processing 1,000+ images and reducing training time by 30%.
- Engineered a deep learning-based detection framework, leveraging CNN and GAN methods to identify forgeries and improve system accuracy by 15%.
- Optimized data preparation processes with team members, cutting training time by 20% and enhancing project output and workflow consistency.

## CERTIFICATIONS

### ● **Internship Certificate – Indian Institute of Technology, Bhilai**

Developed a "Self-Recovery Watermarking Scheme" under expert supervision.

### ● **Machine Learning and Data Science Certification (In Progress)**

GeeksforGeeks – Actively enhancing expertise in Machine Learning and Data Science.