

# Swetankan Kumar Sinha

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## EDUCATION

### Indian Institute of Technology Patna

Bachelor of Science in Computer Science and Data Analytics

Patna, Bihar

July, 2023 – Present

### Guru Gobind Singh Public School

Intermediate

Bokaro, Jharkhand

April, 2022 – March 2023

### Guru Gobind Singh Public School

Matriculation

Bokaro, Jharkhand

April, 2020 – March 2021

## EXPERIENCE

### Research Intern

IIT Naya Raipur

May 2025 – July 2025

Chhattisgarh, India

- Worked on a research project to estimate blood glucose levels using non-invasive PPG signals and ML & DL.
- Applied signal processing and entropy-based feature extraction on real-world PPG data.
- Used XGBoost and neural networks to achieve clinically relevant performance(MAE 15).
- Handled time-series preprocessing, denoising, and segment-level modeling with subject metadata.

### AI and Cloud Intern

Edunet Foundation - IBM SkillsBuild

February 2024 – April 2024

India

- Worked on project-based learning assignments in a collaborative environment guided by mentors.
- Utilized IBM SkillsBuild platform for skill enhancement in AI and Cloud technologies.
- Received certification for successfully solving real-world challenges and completing masterclasses.

## PROJECTS

### Cuff-less Blood Glucose Estimation using PPG Signal

Machine Learning Research Intern

Research Internship Project

IIT Naya Raipur

- Developed a non-invasive glucose estimation model using PPG signals and hybrid ML (XGBoost + CatBoost).
- Extracted entropy, morphological, and frequency features from 30s segments to achieve clinically viable MAE.

### AI Health Guard

Website Developer & Server Manager

Semester 2 Capstone Project

IIT Patna

- Developed AI disease predictor with 97% SVM accuracy on 10,000+ records .
- Built a responsive web interface and deployed the system using Python Flask for real-time predictions.

### Heart Disease Predictor

Machine Learning Developer

Capstone Project – IBM SkillsBuild Edunet Internship

Remote

- Trained multiple classifiers (Logistic Regression, KNN, Random Forest, Gradient Boosting) on medical data.
- Achieved 98% accuracy and deployed the best model online with an interactive UI.

### Coding Kabila

Co-Founder

Self-Initiated Project

Remote

- Built a community of 500+ developers; hosted 15+ workshops and hackathons.
- Developed and deployed `codingkabila.tech`, offering ML resources and project guidance.

## TECHNICAL SKILLS

- **Languages:** Python, SQL, HTML/CSS
- **Data Tools:** Power BI, pandas, NumPy, Matplotlib, Seaborn, scikit-learn
- **Data Handling:** Data Cleaning, REST APIs
- **Machine Learning:** XGBoost, Random Forest, SVM, KNN, Neural Networks
- **Signal Processing:** PPG Denoising, Feature Extraction (EMD, Entropy), Time-Series Segmentation
- **Developer Tools:** Git, VS Code, Jupyter, Google Colab, AWS (basic)
- **Others:** GIS Tools (Google Earth Engine, QGIS)