# Shubhadeep Saha

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## EDUCATION

**University Institute Of Technology, The University Of Burdwan** — June 2026
*B.E in Computer Science* — *Current CGPA: 8.3*

**U.P. Public School** (Higher Secondary Education) — April 2021
*XII SCIENCE, PCM with Computer Science* — *Percentage: 84.20*

## SKILLS

**Languages**: C, Java, Python, HTML, MySQL
**Soft Skills**: Leadership, Teamwork, Public Speaking, Problem Solving, Content Writing
**Frameworks and Libraries**: NumPy, Pandas, Scikit-learn, Tensorflow, Matplotlib, Seaborn, Keras
**Tools**: Git/GitHub, VS Code, Jupyter Notebook, Google Colab, Streamlit

## PROJECTS

**Digit Classification using CNN** | *Python, TensorFlow, Keras, OpenCV, NumPy, Google Colab* [Link]May 2024

- Engineered and fine-tuned a **Convolutional Neural Network (CNN)** from scratch to accurately classify handwritten digits using the **MNIST dataset**.
- Utilized **TensorFlow and Keras** for model architecture, achieving **98.7% validation accuracy** with minimal overfitting through dropout regularization and batch normalization.
- Optimized hyper parameters(learning rate, batch size, filters) through multiple experiments, boosted training efficiency and accelerated **model convergence** by **~30% compared to baseline**.

**Speech Emotion-Based Email Assistant** | *Librosa, TensorFlow, Keras, Streamlit, SpeechRecognition*[Link]January 2025

- Trained a deep learning model using **MFCC features** and **CNN+LSTM hybrid architecture**, achieving **~91.3% test accuracy** across 7 emotion classes.
- Integrated **Streamlit** to deploy an interactive UI for audio input capture module, emotion detection, and email preview delivering a seamless user interface experience.
- Minimized inference time for emotion detection by **~35%** using optimized MFCC extraction and model pruning techniques, enabling **real-time email composition**.

**News Credibility Test** | *Python, Scikit-learn, Pandas, NumPy, NLTK, TF-IDF, Matplotlib, Google Colab* [Link]April 2025

- Developed a machine learning pipeline to classify news headlines/articles as credible or deceptive using **TF-IDF vectorization and Logistic Regression**.
- Achieved **~96.2% accuracy** on validation data; reduced false positives by tuning class weights and optimizing thresholds.

## POSITION OF RESPONSIBILITY

**The CodeBird, UIT BU** | *Executive Member AI/ML Team* — Aug. 2023 – Sept. 2024

- Led the AI/ML vertical of Team Codebird, mentoring juniors and collaborating with seniors on industry-inspired AI projects.

**The CodeBird, UIT BU** | *Tech Leader AI/ML Team* — Sept. 2024 – July. 2025

- Led roadmap planning for future AI initiatives, including integration of LLM-based tools and security-focused ML applications. launched structured **peer-learning initiatives** , boosting junior member productivity and cross-team ML fluency.

## ACHIEVEMENTS

- Ranked 3rd in **CodeWiz Hackathon.**
- Recipient of Prime Minister's Scholarship under National Defence Fund.