

Subhranil Nandy

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📍 West Bengal, India

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📁 Experience

- **Indian Institute of Technology, Kharagpur, Summer Research Intern** [🔗](#)

• Dept. Center of Excellence in Affordable Healthcare (CoE-AH)
• Worked on smart healthcare edge devices for measuring a person's vital signs.
• Created a wearable health device prototype that tracks heart and breathing rates in real-time with a mean absolute error (**MAE**) of around **1.0** units.

May 2024 – Jul 2024
Kharagpur, West Bengal
- **GirlScript Summer of Code (GSSoC'24), Open-source Contributor**

• Ethnicity Classification of Asian People [🔗](#)
• Pneumonia Classification using Chest X-Ray [🔗](#)

May 2024 – Jul 2024
Remote

🎓 Education

- Indian Institute of Engineering Science and Technology (IIEST), Shibpur, Howrah,**
B.Tech, Information Technology (IT) [🔗](#)
CGPA 9.31/10 | Upto 4th Semester

2022 – 2026
- M. C. Kejriwal Vidyapeeth, Liluah, Howrah, ICSE, ISC** [🔗](#)
ISC(XII) (PCM, CS and English) - 96.5% (2022)
ICSE(X) – 96.6% (2020)

2008 – 2022

📁 Projects

- **Pneumonia Classification using Chest X-Ray images, TensorFlow, Pandas, Matplotlib, Python**

• Currently experimenting with CNN architectures and different transfer-learning models like VGG16, MobileNet, and ResNet to achieve an efficient performance.
• Achieved a **precision of 95%** so far on binary classification with the **VGG16** model.

May 2024 – Present
- **MNIST Handwritten Digit Classification Web app, TensorFlow, Pandas, Matplotlib, Python | GitHub Link** [🔗](#)

• Used Convolutional Neural Networks (CNNs) for classification. Achieved an **accuracy of 99.45%** on the MNIST test dataset after integrating *Data Augmentation* techniques.
• Deployed the model using Streamlit and ensured a seamless UI/UX.
• Applied *Image Preprocessing* techniques, including *contrast enhancement and colour inversion*, to diversify images recognised by the classifier.

Mar 2024 – May 2024
- **Facial Emotion, Age and Gender extraction from Raspberry Pi based Video Surveillance with low-cost webcams, Raspberry Pi 3B+, OpenCV, TensorFlow, Python**

• Conceptualised an edge device consisting of Raspberry Pi integrated with a webcam.
• Designed and deployed a lightweight, real-time emotion, age and gender detection model using **Tensorflow lite (.tflite)** on Raspberry Pi.

Mar 2024 – May 2024

🧠 Technical Skills

- **Programming Languages:** Java, Python, C, MATLAB
- **Machine Learning Frameworks:** TensorFlow, Keras, scikit-learn, OpenCV, NumPy, Pandas, Matplotlib, SciPy
- **Embedded Systems:** Raspberry Pi, Arduino, ESP32
- **Development Tools:** VS Code, JupyterLab, Anaconda, Git, GitHub, Streamlit
- **Others:** Qiskit, Linux

📄 Publications

- Deep Feature Learning for Detecting Water Pollution from Industrial Waste,**
Sneha Singh, Suranjana Saha, Subhranil Nandy, Dr. Mahua Nandy Pal, Dr. Tien Anh Tran
Accepted in 8th International Conference On Emerging Applications of Information Technology, 2024, Kolkata.
Will be published in "Lecture Notes in Networks and Systems," Springer Nature (In press) [🔗](#)

2024

🏆 Achievements

- **Exam Ranks, • JEE Advanced: AIR 5556 • JEE Main: AIR 12943 • WBJEE: Rank 843**

2022
- **Jagadish Bose National Science Talent Search (JBNSTS) Scholarship**

Recognised as **one of 203 Scholars** selected for the JBNSTS Junior Scholarship from West Bengal in 2020, highlighting commitment to scientific inquiry and excellence.

2021 – 2022

📖 Courses

- Advanced Learning Algorithms, DeepLearning.AI | Certificate** [🔗](#)
- Quantum Explorers (Using Qiskit SDK), IBM | Badge** [🔗](#)