



Hritwik Ghosh

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ABOUT ME

I am Hritwik Ghosh, a final-year Computer Science student specializing in Artificial Intelligence and Machine Learning at VIT-AP University, India. With a strong passion for research and innovation, I have authored over 20 publications in esteemed journals such as IEEE Xplore, MDPI, and EAI, contributing to advancements in medical imaging, agricultural disease detection, and deep learning optimization. My work has been recognized at international conferences in Germany, Slovakia, and Dubai, where I have presented cutting-edge solutions to real-world challenges.

As the Vice President of the Machine Learning Club at VIT-AP, I have spearheaded workshops, led research-driven projects, and collaborated with industry professionals to foster a dynamic learning environment. My expertise spans machine learning, deep learning, and research-driven AI applications, making me a strong candidate for MS and PhD programs. Driven by a commitment to leveraging AI for global impact, I am eager to contribute to groundbreaking research in data science, artificial intelligence, and computational innovation.

WORK EXPERIENCE

15/09/2022 – 14/03/2023 Dhaka, Bangladesh

MACHINE LEARNING INTERN(REMOTE) ADE CONSULTING SERVICES

- Designed and implemented machine learning models for business forecasting and risk management.
- Analyzed historical and real-time data to assess, mitigate, and manage business risks.
- Developed predictive algorithms to optimize decision-making processes.
- Enhanced financial and operational stability through data-driven modeling.
- Collaborated on advanced machine learning solutions to solve real-world challenges.

20/09/2023 – 19/02/2024 Remote (Al-Kharj), Saudi Arabia

MACHINE LEARNING RESEARCH INTERN (REMOTE) DEPARTMENT OF COMPUTER ENGINEERING, PRINCE SATTAM BIN ABDULAZIZ UNIVERSITY

- Conducted remote research on advanced deep learning and machine learning models for automated hematology.
- Specialized in blood cell detection and classification using medical imaging datasets.
- Developed deep learning models to address real-world challenges in medical image processing.
- Authored the research paper "A Step Towards Automated Hematology: Deep Learning Models for Blood Cell Detection and Classification."
- Collaborated remotely with supervisors and peers to ensure research progress and quality.

24/04/2023 – 23/04/2024 Hyderabad, India

MACHINE LEARNING RESEARCH INTERN(REMOTE) DEPARTMENT OF ARTIFICIAL INTELLIGENCE & DATA SCIENCE, IFHE, HYDERABAD

- Specialized in developing and applying advanced deep learning models for medical diagnostics.
- Conducted extensive research on machine learning techniques for medical image processing.
- Translated theoretical knowledge into practical applications, driving research advancements.
- Authored and published three research papers:
 1. *From Pixels to Pathology: The Power of CNNs in Detecting Tuberculosis.*

2. *Convolutional Neural Networks for Automated Pneumonia Diagnosis from Chest X-rays.*
3. *Enhancing Alzheimer's Disease Diagnosis with Deep Learning: A CNN Approach Utilizing Extensive MRI Data for Stage Classification.*

● EDUCATION AND TRAINING

01/12/2021 – CURRENT Amaravati, India

BACHELOR OF TECHNOLOGY IN COMPUTER SCIENCE & ENGINEERING (SPECIALIZATION IN AI & ML) VIT-AP University

Website <https://vitap.ac.in> | Level in EQF EQF level 6

01/06/2018 – 01/07/2020 Chattogram, Bangladesh

HIGHER SECONDARY CERTIFICATE (HSC) IN SCIENCE Gachhbaria Govt. College, Chandonais, Chattogram

Website <https://www.ggcc.edu.bd/> | Level in EQF EQF level 4

01/01/2016 – 30/12/2018 Chattogram, Bangladesh

SECONDARY SCHOOL CERTIFICATE (SSC) IN SCIENCE Patiya Model High School

Level in EQF EQF level 3

● LANGUAGE SKILLS

Mother tongue(s): **BENGALI**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	C1	C1	C1
HINDI	C2	A2	B2	C1	A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● DIGITAL SKILLS

Python | R | MATLAB | Java | Web Development (HTML, CSS) | TensorFlow | PyTorch | Scikit-learn | Keras | Data Analysis | Data Visualization (Pandas, NumPy, Matplotlib, Seaborn) | Machine Learning Algorithms and Models | Deep Learning | Natural Language Processing (NLP) | Canva | Microsoft Office Suite (Word, Excel, PowerPoint) | Operating Systems (Windows, macOS) | Jupyter Notebooks, Google Colab

● PUBLICATIONS

2023

[Water Quality Assessment through Predictive Machine Learning](#)

Write here the description...

Hritwik Ghosh, Mahatir Ahmed Tusher, Irfan Sadiq Rahat, Syed Khasim, Sachi Nandan Mohanty

2024

[A Study on the Application of Machine Learning and Deep Learning Techniques for Skin Cancer Detection](#)

Ajmeera Kiran, Janjhyam Venkata Naga Ramesh, Irfan Sadiq Rahat, Mohammad Aman Ullah Khan, Anwar Hossain, Roise Uddin

2024

[Exploring the Potential of Deep Learning in the Classification and Early Detection of Parkinson's Disease](#)

VS Bakkialakshmi, V Arulalan, Gowdham Chinnaraju, Hritwik Ghosh, Irfan Sadiq Rahat, Ankit Saha

2024

[Deep Learning in Medical Imaging: A Case Study on Lung Tissue Classification](#)

Write here the description...

Sandeep Kumar Panda, Janjhyam Venkata Naga Ramesh, Hritwik Ghosh, Irfan Sadiq Rahat, Abdus Sobur, Mehadi Hasan Bijoy, Mannava Yesubabu

2024

[Exploring Deep Learning Models for Accurate Alzheimer's Disease Classification based on MRI Imaging](#)

Irfan Sadiq Rahat, Tuhin Hossain, Hritwik Ghosh, Kamjula Lakshmi Kanth Reddy, Srinivas Kumar Palvadi, JVR Ravindra

2024

[Convolutional Neural Networks in Malaria Diagnosis: A Study on Cell Image Classification](#)

Hritwik Ghosh, Irfan Sadiq Rahat, JVR Ravindra, J Balajee, Mohammad Aman Ullah Khan, J Somasekar

2024

[From Pixels to Pathology: The Power of CNNs in Detecting Tuberculosis](#)

Hritwik Ghosh, Irfan Sadiq Rahat, MD Mehedi Hasan Nipu, Garigipati Rama Krishna, JVR Ravindra

2024

[A Step Towards Automated Haematology: DL Models for Blood Cell Detection and Classification](#)

Irfan Sadiq Rahat, Mohammed Altaf Ahmed, Donepudi Rohini, A Manjula, Hritwik Ghosh, Abdus Sobur

2024

[A Comparative Analysis of Machine Learning and Deep Learning Approaches for Prediction of Chronic Kidney Disease Progression](#)

Susmitha Mandava, Surendra Reddy Vinta, Hritwik Ghosh, Irfan Sadiq Rahat

2024

[Enhancing Agricultural Sustainability with Deep Learning: A Case Study of Cauliflower Disease Classification](#)

Nihar Ranjan Pradhan, Hritwik Ghosh, Irfan Sadiq Rahat, Janjhyam Venkata Naga Ramesh, Mannava Yesubabu

2024

[A Study on the Application of Machine Learning and Deep Learning Techniques for Skin Cancer Detection](#)

Hritwik Ghosh, Irfan Sadiq Rahat, Sachi Nandan Mohanty, JVR Ravindra, Abdus Sobur

2024

[Identification and Categorization of Yellow Rust Infection in Wheat through Deep Learning Techniques](#)

Mamatha Mandava, Surendra Reddy Vinta, Hritwik Ghosh, Irfan Sadiq Rahat

2024

[Using Deep Learning and Machine Learning: Real-Time Discernment and Diagnostics of Rice-Leaf Diseases in Bangladesh](#)

Syed Khasim, Irfan Sadiq Rahat, Hritwik Ghosh, Kareemulla Shaik, Sujit Kumar Panda

2024

[Deciphering Microorganisms through Intelligent Image Recognition: Machine Learning and Deep Learning Approaches, Challenges, and Advancements](#)

Syed Khasim, Hritwik Ghosh, Irfan Sadiq Rahat, Kareemulla Shaik, Manava Yesubabu

2023

[Advanced Deep Learning Models for Corn Leaf Disease Classification: A Field Study in Bangladesh](#)

Sachi Nandan Mohanty, Hritwik Ghosh, Irfan Sadiq Rahat, Chirra Venkata Rami Reddy

2023

[Innovative Approaches in Tomato Leaf Disease Recognition using Deep Learning](#)

Hritwik Ghosh, Irfan Sadiq Rahat, Radha Mohan Pattanayak, Sachi Nandan Mohanty

2023

[Microbial Image Deciphering: Navigating Challenges with Machine and Deep Learning](#)

Hritwik Ghosh, Irfan Sadiq Rahat, Sachi Nandan Mohanty, Janjhyam Venkata Naga Ramesh

2023

[Cassava Syndrome Scan a Pioneering Deep Learning System for Accurate Cassava Leaf Disease Classification](#)

Irfan Sadiq Rahat, Hritwik Ghosh, Janjhyam Venkata Naga Ramesh, Ajmeera Kiran, Poonam Verma

2023

[Benchmarking ML and DL Models for Mango Leaf Disease Detection: A Comparative Analysis](#)

Hritwik Ghosh, Irfan Sadiq Rahat, Rasmita Lenka, Sachi Nandan Mohanty, Deepak Chauhan

2023

[An All-Inclusive Machine Learning and Deep Learning Method for Forecasting Cardiovascular Disease in Bangladeshi Population](#)

Manjula Mandava, Surendra Reddy Vinta, Hritwik Ghosh, Irfan Sadiq Rahat

2023

[Unraveling the Heterogeneity of Lower-Grade Gliomas: Deep Learning-Assisted Flair Segmentation and Genomic Analysis of Brain MR Images](#)

Irfan Sadiq Rahat, Hritwik Ghosh, Kareemulla Shaik, Syed Khasim, Gnanajeyaraman Rajaram

2023

[Potato Leaf Disease Recognition and Prediction using Convolutional Neural Networks](#)

Hritwik Ghosh, Irfan Sadiq Rahat, Kareemulla Shaik, Syed Khasim, Manava Yesubabu

2023

[Advanced Deep Learning Models for Corn Leaf Disease Classification: A Field Study in Bangladesh. Eng. Proc. 2023, 59, 69](#)

SN Mohanty, H Ghosh, IS Rahat, CVR Reddy

2023

[Identification and Categorization of Yellow Rust Infection in Wheat through Deep Learning Techniques. EAI Endorsed Trans IoT 2023, 10](#)

M Mandava, SR Vinta, H Ghosh, IS Rahat

● **CONFERENCES AND SEMINARS**

2023 – 2023 Slovakia

AIHC 2023 (Artificial Intelligence for Healthcare Conference)

Presented research on cutting-edge AI models for healthcare, highlighting innovative solutions for medical diagnostics.

2023 – 2023 Germany

AMLDA 2023 (Applied Machine Learning and Data Analytics Conference)

Presented insights on machine learning techniques for advancing agricultural sustainability and detecting plant diseases.

Presented research findings on deep learning applications for plant disease classification and management in agriculture.

2023 – 2023 India

ICISML 2023 (International Conference on Intelligent Systems and Machine Learning)

Presented a comparative analysis of machine learning and deep learning approaches for predicting chronic diseases.

2023 – 2023 Malaysia

iDEAAS 2024 (International Conference on Emerging AI Systems)

Shared insights on developing hybrid deep learning models for medical image analysis and diagnostic applications.

● HONOURS AND AWARDS

2023

Best Research Paper Award – ICISML Conference 2023

Recognized for presenting an innovative research paper on machine learning and deep learning techniques at the International Conference on Intelligent Systems and Machine Learning (ICISML).

2024

Best Technical Club Award – VIT-AP University

Honored to serve as the Vice President of the Machine Learning Club, which was recognized as the Best Technical Club for its exceptional initiatives, including workshops, hackathons, and research-driven events.

● MANAGEMENT AND LEADERSHIP SKILLS

Vice-President of Machine Learning Club, VIT-AP University

- Successfully led the Machine Learning Club to earn the "**Best Technical Club**" award for the 2023-2024 academic year.
- Organized and managed impactful workshops, hackathons, and events, including "**GitCraft: Mastering GitHub**," "**DSA Bootcamp**," and "**CodeHunt Hackathon**."
- Collaborated with industry experts from **Amazon** and **Adobe** to enrich the learning experience of club members.
- Fostered a culture of **innovation and research** by mentoring students and conducting sessions on **advanced AI and ML topics**.

Event Team Lead of Bongojo, VIT-AP University

- Successfully led the **event management team** for Bongojo, ensuring smooth execution of cultural and technical events.
- Coordinated with multiple teams to organize **engaging and inclusive activities** celebrating Bengali culture.
- Managed logistics, scheduling, and on-ground operations to enhance the **overall event experience**.
- Fostered collaboration among students, encouraging **active participation and cultural exchange**.
- Played a key role in promoting the event, increasing **student engagement and outreach**.

Organized Technical Events at V-TAPP 2024

Successfully organized four technical events as part of **VTAPP 2024**, the annual technical fest of **VIT-AP University**.

● PROJECTS

2023

Air Quality Monitor

Developed an **IoT-based air quality monitoring system** integrating **predictive analytics** to track pollutants like **PM2.5**, **CO2**, and more. The device provided **real-time updates** and **data visualization** via a web interface, offering **actionable insights** into air pollution trends for users and authorities.

2023

Line Following Robot

Designed and implemented a **path-following robotic system** utilizing **light sensors** for navigation. Integrated **microcontroller programming** with optimized **motor control**, ensuring precise movement through complex paths. The robot was showcased at a **university technical event**, highlighting expertise in **automation and embedded systems**.

2023

Real-Time Human Detection and Tracking using Computer Vision

Developed a **real-time human detection and tracking system** using **OpenCV** and **YOLO algorithms** for **security and surveillance applications**. Optimized **detection speed and accuracy**, ensuring **reliable tracking** in dynamic environments with variable lighting conditions.

2023

Potato Leaf Disease Recognition using CNN

Developed a **CNN-based model** for **potato leaf disease classification**, identifying categories such as **Early Blight**, **Late Blight**, and **Healthy**. Implemented **image preprocessing** and **data augmentation** techniques to improve model accuracy. **Published findings** in a research paper.

Link <https://github.com/IrfanSadiqRahat>

Mango Leaf Disease Detection using Deep Learning

Developed a **deep learning model** for classifying **13 types of mango leaf diseases**, integrating **EfficientNet** for feature extraction and achieving **98.7% accuracy**. Applied **Explainable AI (XAI)** for feature localization and visual explanations, enhancing model interpretability.

Link <https://github.com/IrfanSadiqRahat>

Alzheimer's Disease Classification using CNN

Developed a **hybrid deep learning model** for **early detection and classification of Alzheimer's Disease stages** using **MRI imaging data**. Integrated **transfer learning with EfficientNet**, enhancing accuracy while reducing computation time.

Link <https://github.com/IrfanSadiqRahat>

● HOBBIES AND INTERESTS

Music, Reading, Gaming, Playing Football and Traveling

I enjoy engaging in **diverse hobbies** that foster **creativity and personal growth**. **Listening to music** helps me unwind and sparks **innovative ideas**, while **reading books** broadens my perspective. **Playing games** enhances my **problem-solving and strategic thinking**, and **traveling** exposes me to **new cultures**, fueling my passion for **lifelong learning**.

● CERTIFICATIONS

27/06/2022 – 22/07/2022

Data Science and Advanced Analytics

Completed a **30-hour certification program** on **Data Science and Advanced Analytics**, covering **statistical methods**, **machine learning algorithms**, and **data visualization techniques**.

Awarding Institution: Department of Computer Science and Engineering, VIT-AP University, India.

2022

Optimization Problems and Algorithms

Completed an **online certification** on **optimization techniques and algorithms**, covering key concepts such as **Genetic Algorithms** and **Particle Swarm Optimization**.

2022

Machine Learning A-Z™: Hands-On Python & R in Data Science

Earned a **certification in Machine Learning**, focusing on **fundamentals and practical applications** using **Python** and **R**. Covered key topics such as **regression, classification, clustering**, and **deep learning techniques**.

2021

Python Workshop

Participated in a two-day workshop focused on Python programming for data analysis and visualization, conducted by Adam Zaini, Data Scientist at ExxonMobil.

Awarding Institution: IchemE Student Chapter, UTP, Malaysia

2022

One Day National Workshop on the Role of Machine Learning in Cosmology

Attended a national workshop on machine learning applications in cosmology, exploring predictive analytics and computational modeling in astronomy.

Awarding Institution: School of Computer Science and Engineering (SCOPE) and School of Advanced Sciences (SAS), VIT-AP University.

Foreign Guest Lecture on "5.0 Industrial Revolution"

Attended a guest lecture on emerging trends in the Industry 5.0 Revolution, focusing on AI-driven automation and its transformative impact on various industries.

Awarding Institution: School of Computer Science and Engineering, VIT-AP University, Amaravati

● CONTACT INFORMATION

Email

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LinkedIn

Link https://www.linkedin.com/in/hritwik-ghosh-a56a9b269/?utm_source=share&utm_campaign=share_via&utm_content=profile&utm_medium=android_app

Google Scholar

Link <https://scholar.google.com/citations?user=aVeLxoYAAAAJ&hl=en&authuser=1>

ORCID ID

Link <https://orcid.org/0009-0006-3573-142X>

Research Gate

Link <https://www.researchgate.net/profile/Hritwik-Ghosh-2>

Scopus ID

Link <https://www.scopus.com/authid/detail.uri?authorId=58613938700>

With a proven track record in research and innovation, I am dedicated to advancing the boundaries of artificial intelligence and machine learning. My goal is to contribute to impactful solutions that address global challenges while fostering innovation in academic and professional arenas. I am eager to collaborate and grow in an environment that values curiosity, creativity, and excellence.