RAVI SHEKHAR TIWARI

Developer ~ Researcher

🌐 www.rstiwari.com ✉ tiwari11.rst@gmail.com
📞 +91-9431006763 ⊙ happyman11
📍 Telangana, India 🔗 ravishekhartiwari

SUMMARY

With a aim to innovate the technology by research and enhance the end-user experience by developing state-of-the-art software, I have been associated with Industry as well as Academia for different projects. Currently looking for a role in Artificial Intelligence and Blockchain in Industry.

SKILLS

Languages: HTML, SQL, Python, JavaScript, HTML, C++, C, R, Julia, Php, Shell, Solidity, Ajax, Rust.

Technologies: APIs, Stack Development, Artificial Intelligence, Deployment, Bussiness Intelligence, Programming Languages, Internet of Things, ETL, Scrapping Automation & Scheduler, Code Management, AWS, BlockChain.

EDUCATION

08/2023 - Present	**M.Tech in Data Science & Artificial Intelligence (with Teaching Assistantship)** Mahindra University, Telangana, Hyderabad, India	**PostGraduation**
05/2015 - 05/2019	**B.Tech in Information Technology** Percentage: **81.76**%, SRM University, Chennai, Tamil Nadu, India	**UnderGraduation**
03/2013 - 03/2015	**CBSE Board** Percentage: **80.08**%, International School, Patna, Bihar	**High School Education**
04/2012 - 04/2013	**ICSE Board** Percentage: **78.01**%, International School, Patna, Bihar	**Secondary School Education**

INDUSTRY EXPERIENCE

06/2022 - Present   **Research & Development Intern**   *Indian Institute of Technology, Indore*

- As a Intern I developed H-MTL model for Acoustic Early Warning System for Counter Insurgency and Counter Terrorism which can be deployed on Edge device for ease of use
- As a Intern I am developing Domain Adaptation model for Acoustic Early Warning System for Counter Insurgency and Counter Terrorism which can be deployed on Edge device for ease of use in different environment conditions.

```
CI/CD  /  Domain Adaptation  /  H-MTL  /  Transformers  /  Pytorch  /  AI  /  ML
```

10/2022 - Present   **Technical Content Writter**   *Scaler Academy, Karnataka*

- As a Technical Content Writer, I am writing modules of the course related to the R programming
- As a Technical Content Writer, I have created more than 20+ modules of the course which is published on Scaler Topics under the title TensorFlow/Keras

```
Keras  /  Data Pipeline  /  Tensorflow  /  Transformers  /  R  /  AI  /  ML
```

12/2022 – 6/2023   **Junior Research Fellow**   *Indian Institute of Technology - Patna, Bihar*

- Proof of Concept for the application of Artificial Intelligence Concept into PPGCL, Coal Power Plant.
- Contributed to making the autonomous pipe inspection car to inspect the 17 kms long and 2 mt. wide cooling pipe.
- Developed AI-based application based on the Proof of Concept to calibrate the various parameters in the control room to reduce energy wastage and increase the productivity of the power plant.

```
AI in Electric Power Plant  /  Robotics  /  AI  /  ML
```

1/2023 – 3/2023
 scholarship holder   **Fellowship**   *Launchpad.ai*

- Developed model that can perform segmentation of Satellite Images obtained from the Planet Labs Dataset repository.
- Based on the Segmentation Model Developed, we developed an application made up of microservices to segment the Region of interest area from the uploaded satellite image.

```
AI  /  ML
```

| 2/2022 - 11/2022 | **AI Engineer** | Chadura Tech, Karnataka, India |

- Developed reusable AI-related Microservices and API.
- Automated the AI pipelines and workflow with Airflow and schedulers.
- Developed chatbot from scratch to enhance the customer user experience.
- Developed AI pipeline and model for identifying unsuitable images and text.
- Developed a Dashboard for the User to have insight into the Data Analytically.
- Developed AI-automated IVR and Whatsapp messages using chatbot and Twillio.
- Developed a Recommendation System to increase sales based on the user profile.
- Pipeline to training models related to NLP, Computer Vision, Sound Signals, and Recommendation.
- Developed a Dashboard using AWS where the Mother server can monitor the resource utilization of the children's server and take necessary actions as per the situation.

```
Keras  /  Tensorflow  /  R  /  AI  /  ML  /  Data Pipeline  /  AWS  /  Data Analytics
```

| 6/2020 - 2/2022 | **AI & ML Consultant** | Data Driven Investor |

- Educating team members and stakeholders on AI/ML concepts, tools, and best practices
- Analyzing current processes and systems to identify areas where AI/ML can be beneficial.
- Deploying the model into the production environment and integrating it with existing systems.
- Ensured compliance with legal and regulatory requirements related to data privacy and AI usage.
- Ensured that AI/ML solutions are developed and deployed ethically, avoiding biases and ensuring fairness.
- Developing and monitoring automated pipelines for continuous integration and deployment (CI/CD) of AI/ML models.

```
Cybersecurity  /  AI  /  ML  /  DEVSECOPS  /  CICD  /  RPA
```

| 6/2019 - 6/2020 | **AI Engineer & Penetration Tester** | Tata Consultancy Services, Maharashtra India |

- CICD pipeline implementation using Jenkins.
- Workflow automation using UIPATH- RPA, and Selenium
- Given training to freshers based on AI and its implementation.
- Penetration testing of applications and websites using Burp suite and Metasploit.
- Application vulnerability exposure using SSC, DAST (Web inspect), SAST (Fortify).
- Integrating AI modules in the internal organization software to enhance the employee experience.
- Implemented DevSecOps (a compliment to agile methodology) in my team which was located around 7 different places in India.

```
Cybersecurity  /  AI  /  ML  /  Penetration Testing  /  DEVSECOPS  /  CICD  /  RPA
```

RESEARCH EXPERIENCE - JOURNAL, CONFERENCE & BOOKS

| 12/2024 - 4/2025 | **Reviewer** | IJCNN-2025, International Neural Network Society Conference, Rome, Italy |

- As a reviewer, I evaluated the proposed methodology of the research paper related to Deep Learning and Machine Learning in Natural Language Processing.

```
AI  /  ML  /  NLP
```

| 12/2024 - 4/2025 | **Reviewer** | ICECCME-2025, IEEE Conference, Tanzania |

- As a reviewer, I evaluated the proposed methodology of the paper related to Deep Learning and Machine Learning.

```
AI  /  ML
```

| 12/2024 - 4/2025 | **Reviewer** | IJCNN-2024, International Neural Network Society Conference, Yokohoma, Japan |

- As a reviewer, I evaluated the proposed methodology of the research paper related to Deep Learning and Machine Learning.

```
AI  /  ML
```

| 3/2023 - 4/2023 | **Reviewer** | ICECCME-2024, IEEE Conference, Spain |

- As a reviewer, I evaluated the proposed methodology of the paper related to Deep Learning and Machine Learning.

```
AI  /  ML
```

| 10/2023 - 12/2023 | **Editor** | CRC Press Taylor & Francis Group |

- As an Editor of the Book Titled Explainable AI (XAI) for Sustainable Development: Trend and Application.

```
XAI  /  AI  /  ML
```

| 1/2023 - 31/2023 | **Managing Editor** | IOP Publishing |

- As a Managing Editor of Book Titled Privacy Preservation and Secured Data Storage in Cloud Computing: Challenges and Opportunities.

```
Cloud Computing  /  Data Security  /  Blockchain  /  Federated Learning
```

| 3/2022 - Present | **Book Series Editor** | IIP Proceedings, Karnataka, India |

- As a Managing Editor of Book Titled Privacy Preservation and Secured Data Storage in Cloud Computing: Challenges and Opportunities.
- Edited book series titled IIP_V2_2022_BS_09_04 Futuristic Trends in Artificial Intelligence.

```
IoT  /  AI  /  ML
```

| 3/2022 - Present | **Journal Reviewer** | Frontiers in Physiology and Neurobiotics, Journal |

- As a professional reviewer, I reviewed the research paper submitted to this esteemed Journal in fields such as Gait, AI, ML, XAI, Cloud Computing, Distributive Computing, and Data Science.

```
Gait  /  AI  /  ML  /  Robotics
```

| 8/2022 - Present | **Journal Reviewer** | International Journal of Research and Scientific Innovation, (IJRSI) |

- As a professional reviewer, I reviewed the research paper submitted to this esteemed Journal in fields such as Gait, AI, ML, XAI, Cloud Computing, Distributive Computing, and Data Science.

```
Gait  /  AI  /  ML  /  Robotics
```

| 3/2020 - Present | **Journal Reviewer** | Institute of Scholars, Karnataka, India |

- As a Journal reviewer in the International Journal of Computer Science and Information Technology (Scopus Indexed).

```
Gait  /  AI  /  ML  /  Robotics
```

| 10/2020 | **Advisory Committee** | IFERP: Virtual Conference on Industry 4.0, India |

- As a member in the advisory committee in IFERP: Virtual Conference on Industry 4.0

```
Gait  /  AI  /  ML  /  Robotics
```

| 11/2020 | **Advisory Committee** | IEEE: International Conference for Innovation and Technology (INOCON), India |

- As a professional reviewer in InSc, I was one of the reviewers in INOCON 2020, where I reviewed the research paper submitted in this esteemed conference.

```
Gait  /  AI  /  ML  /  Robotics
```

FUNDING

ANRF/SERB ITS — **International Travel Grant Support (ITS) for Young researchers** — Year: 2024

Recieved Prestigious ANRF (Anusandhan National Research Foundation) formerly known as SERB, International Travel Grant Support (ITS) for Young researchers. To present my work at 31st International Conference on Neural Information Processing (ICONIP) - an annual conference of the Asia Pacific Neural Network Society (APNNS)

Mahindra University ITS — **International Travel Grant Support (ITS) for Master's Student Research Paper Presentation** — Year: 2024

Recieved Mahindra University Master's student International Travel Grant Support (ITS) to present my work at $31^{s}t$ International Conference on Neural Information Processing (ICONIP) - an annual conference of the Asia Pacific Neural Network Society (APNNS)

Mahindra University Thesis Fund — **Recieved Master's Student Thesis Fund** — Year: 2024

Recieved Mahindra University Master's Student Thesis Fund to purchase the required equiptment and carry out Data Collection and Experiements.

AWARDS & RECOGNITION

Achiever Award — **Young Achiever's Award, InSc** — Year: 2020

Won the Young Achiever's Award in the year 2020, by InSc. This award had been awarded for publishing a patent on Video Captioning using Encoder and Encoder module Link

Researcher's Award — **Youngest Researcher's Award, Green Thinkerz** — Year: 2020

Won the Youngest Researcher's Award in the year 2020, by Green ThinkerZ. This award had been awarded for my contribution to the field of Science and Technology.

Scientist Award — **Young Scientist Award, I2OR** — Year: 2020

Won the Young Scientist Award, I2OR in the year-2020, by Green ThinkerZ. This award had been awarded for my contribution to the field of Science and Technology.

Education — **Asian Education Award, AEA Conference 2021** — Year:2021

Won the Aisan Education Award for the contribution to the development of students in Technology and Education.

Science Exhibition — **SRM Institute of Science & Technology** — Year:2015

Won 1st Prize in the Exhibition of Physics and Nanotechnology in SRM IST, in the year 2015, for the electromagnetic gate.

Education, Udacity Scholarship	**AWS ML Nanodegree** Won the Udacity Scholarship for AWS ML Nanodegree Course.	**Year:2022**
Education	**International Science Olympiad** Secured 2nd Rank in State Level in International Science Olympiad (ISO).	**Year:2003**

CONFERENCE PUBLICATIONS

12th BDA-2024

GCN-MLP Framework for EEG-Based Vigilance Estimation for Variable Data Length

Accepted Paper in 12th Big Data and Artificial Intelligence (BDA) -2024, University of Hyderabad, Hyderabad, Telangana, India on GCN-MLP Framework for EEG-Based Vigilance Estimation for Variable Data Length funded by Mahindra University

31st ICONIP-2024

Demystifying Enhancement & Gradability of Images: Channel-Based Image Enhancement and K-shot Quality Measurement Assessment Model

Presented Paper in 31st ICONIP-2024, Auckland, New Zealand on Demystifying Enhancement & Gradability of Images: Channel-Based Image Enhancement and K-shot Quality Measurement Assessment Model funded by ANRF (Formerly known as SERB) & Mahindra University

5th I4C-2024
 IEEE, Xplore

A Smart Locking System Based on Multimodal Biometrics Authentication **Link**

Tiwari, R. S., Das, T. K., Durgashri, G., & Mohapatro, A. (2024, October). A Smart Locking System Based on Multimodal Biometrics Authentication. In 2024 5th International Conference on Circuits, Control, Communication and Computing (I4C) (pp. 571-576). IEEE.

5th RDCAPE-2023
 Springer, LNEE

A Comparative Analysis of Short-Term Load Forecasting Techniques: Conventional Deep Learning Models vs. Proposed LSTM with Attention Layers **Link**

Accepted Paper in 5th International Conference on Recent Developments in Control, Automation & Power Engineering (RDCAPE-2023), Amity University, Noida, UttarPradesh, India on A Comparative Analysis of Short-Term Load Forecasting Techniques: Conventional Deep Learning Models vs. Proposed LSTM with Attention Layers

ICAICTA 2021
 Springer, LNCV

CNN- Gait Based Walk Acknowledgement Biometric Model

Supraja P, Ravi Shekhar Tiwari "CNN- Gait Based Walk Acknowledgement Biometric Model" in International Conference on Advancing Intelligent Computing Theory and Applications (ICAICTA 2021) on 22nd & 23rd Dec 2021.

ISCMM 2021
 Springer, LNCV

Channel-Based Similarity Learning Using 2D Channel-Based Conv. Neural Network **Link**

Tiwari, R. S. (2022, July). Channel-Based Similarity Learning Using 2D Channel-Based Convolutional Neural Network. In Artificial Intelligence on Medical Data: Proceedings of International Symposium, ISCMM 2021 (pp. 331-348). Singapore: Springer Nature Singapore.

PATENTS

Patent Indian

Video Captioning Using Encoder and Decoder Module **Link**

A System For Generating Captions For Video Frames And A Method Thereof Application No. 201941049570 A, The Patent Office Journal No. 51/2019 Dated 20/12/2019, pg.no 61314, Patent No: 484183 Date of Grant : 18/12/23

Patent Indian

Human Identification Using Gait Analysis and 3D Convolutional Network **Link**

An Apparatus and Method for Recognizing a Person using Gait Parameters Application No. 201941053621 A, The Patent Office Journal No. 1/2020 Dated 03/1/2020, pg.no 208

BOOK AND BOOK CHAPTERS PUBLICATIONS

Book Chapter
 Elsevier

Hate Speech Detection Using LSTM in Computational Intelligence Methods for Sentiment Analysis in Natural Language Processing **Book Link**

Tiwari, R. S. (2024). Hate speech detection using LSTM and explanation by LIME (local interpretable model-agnostic explanations). In Computational Intelligence Methods for Sentiment Analysis in Natural Language Processing Applications (pp. 93-110). Morgan Kaufmann.

Book
 Taylor & Francis Grp.

Libraries for Explainable Artificial Intelligence (EXAI): Python in Explainable AI (XAI) for Sustainable DevelopmentTrends and Applications **Book Link**

Lakshmi, D., Tiwari, R. S., Dhanaraj, R. K., & Kadry, S. (Eds.). (2024). Explainable AI (XAI) for Sustainable Development: Trends and Applications. CRC Press.

Edited Book
 IGI

Privacy Preservation and Secured Data Storage in Cloud Computing **Book Link**

Edited Book named Privacy Preservation and Secured Data Storage in Cloud Computing published in IGI Global Publisher. DOI: 10.4018/979-8-3693-0593-5, ISBN: 9798369305935

Edited Book IIP	**Futuristic Trends in IOT** Edited Book named Futuristic Trends in IOT published in Iterative International Publishers (IIP), Selfypage Developers Pvt Ltd.
Book Chapter Taylor & Francis Grp.	**Explainable AI (EXAI) for Sustainable Development: Trends and Applications** **Book Link** Victoria, A. H., Tiwari, R. S., & Ghulam, A. K. (2024). 13 Libraries for Explainable. Explainable AI (XAI) for Sustainable Development: Trends and Applications, 211.
Edited Book IIP	**Futuristic Trends in Artificial Intelligence** **Book Link** Edited Book named Futuristic Trends in Artificial Intelligence published in Iterative International Publishers (IIP), Selfypage Developers Pvt Ltd with ISBN: 978-93-95632-81-2
Book Chapter Scrivener Pub.	**Model Evaluation in Fundamentals and Methods of Machine and Deep Learning: Algorithms, Tools and Applications.** **Book Link** Tiwari, R. S. (2022). Model Evaluation. Fundamentals and Methods of Machine and Deep Learning: Algorithms, Tools and Applications, 33-100.

JOURNAL PUBLICATIONS

Springer Telecom. Systems SCIE	**A lightweight optimized intrusion detection system using machine learning for edge-based IIoT security** **Research Paper Link** We have developed a unique lightweight optimized intrusion detection system based on Feature selection by Evolutionary Algorithm which can select most prominetnt features from the network traffic and if irregularities and found in the network packets it will stop the packets in the middle in order to prevent any attack on the system
MDPI, Diagnostic SCIE	**Cloud-Based Quad Deep Ensemble Framework for the Detection of COVID-19 Omicron and Delta Variants** **Research Paper Link** We have developed a unique ensemble model for detecting COVID-19 Omicron and Delta variants from lung CT-scan images. The ensemble model combines the Capsule Network (CapsNet) with pre-trained architectures including VGG-16, DenseNet-121, and Inception-v3. This approach aims to enhance reliability and robustness in diagnosing the variants. DOI: 10.3390/diagnostics13223419
IEEE, TIA SCIE	**Comparative Study on Forecasting of Schedule Generation in Delhi Region for the Resilient Power Grid Using Machine Learning** **Research Paper Link** In this proposed work, the focus is on Short-Term Load Forecasting (STLF) in the Delhi metropolis for the upcoming twelve months of 2020. The transformation of the conventional electrical grid into a more adaptable and interactive system due to the increasing use of Renewable Energy Resources (RES) has made accurate load prediction crucial for smart grid operation, including planning, scheduling, management, and electricity trading. DOI: 10.1109/TIA.2023.3316646
Springer, Evolving System SCIE	**3D convolution neural network-based person identification using gait cycles** **Research Paper Link** Human identification plays a prominent role in terms of security. In modern times security is becoming the key term for an individual or a country, especially for countries that are facing internal or external threats. Gait analysis is interpreted as the systematic study of the locomotive in humans.The steps involve object detection, background subtraction, silhouette extraction, skeletonization, and training 3D Convolution Neural Network (3D-CNN) on these gait features. DOI:10.1007/s12530-021-09397-y
Jrnl. of Physics & Nanotech. Scopus	**Enhanced Human Gait Prediction** In this we have used 2D CNN to recognize the human by their gait features by analyzing their walking pattern by considering their silhouettes.

PROJECTS

Plagiarism Report	**As Part of Foundation of NLP Teaching Assistantship** **GitHub Repository** Developed software to calculate Student-to-Student Similarity Scores and detect AI-generated content in assignments submitted during coursework.
Slack & Email Notification Center	**As Part of Foundation of NLP Teaching Assistantship** **GitHub Repository** Developed software to Pre-Schedule the Slack Notification Messages as well as Emails. So that we can schedule the notification and Slack Messages for different event in the Foundation of NLP coursework.
Vlanc Website Domain Migration	**As Part of Foundation of NLP Teaching Assistantship** **Vlanc Website** I maintained the website of VLanc Lab and migrated the website to custom domain instead of Github free Domain.

| MICA - 2024 | **As Part of Advanced Communications and Machine Intelligence Conference - 2024** | **Website** |

As a part of MICA- 2024, I automated the email process of all the participants as well as the audience in order to seamless flow of information. Helped in designing Certificates for Reviewer/Speakers/Key-Note Speaker/Participants, Registration Reciepts, Posters and Invitation Cards.

I, Ravi Shekhar Tiwari, hereby declare and attest that the information provided in this resume is true, accurate, and complete to the best of my knowledge.

Name: <u>Ravi Shekhar Tiwari</u>

Signature: <u>RS Tiwari</u>