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)** — **PostGraduation**
Mahindra University, Telangana, Hyderabad, India

05/2015 - 05/2019 **B.Tech in Information Technology** — **UnderGraduation**
Percentage: 81.76%, SRM University, Chennai, Tamil Nadu, India

03/2013 - 03/2015 **CBSE Board** — **High School Education**
Percentage: 80.08%, International School, Patna, Bihar

x/2023 - x/2023 **ICSE Board** — **Secondary School Education**
Percentage: 78.01%, International School, Patna, Bihar

INDUSTRY EXPERIENCE

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 **Fellow** — **Launchpad.ai**
scholarship holder

- 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`

6/2019 - 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`

6/2019 - 6/2020 **Author** **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`

ACADEMIC EXPERIENCE

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

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

`AI / ML`

0/2023 - 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`

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 1^{st} 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 **Year:2022**
Won the Udacity Scholarship for AWS ML Nanodegree Course.

Education

International Science Olympiad **Year:2003**
Secured 2^{nd} Rank in State Level in International Science Olympiad (ISO).

PROJECTS & PUBLICATIONS

Book Chapter
Elsevier

Hate Speech Detection Using LSTM in Computational Intelligence Methods for Sentiment Analysis in Natural Language Processing **Book Link**
This is a chapter published in the book Computational Intelligence Methods for Sentiment Analysis in Natural Language Processing. In this chapter, I have explained how we can use LSTM to detect hate speech and explain the model output to the user by implementing Explainable Artificial Intelligence (XAI). ISBN: 9780443220098

Research Paper
MDPI, Diagnostic
Impact Factor:3.6
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

Book Chapter
Taylor & Francis Grp.

Libraries for Explainable Artificial Intelligence (EXAI): Python in Explainable AI (XAI) for Sustainable DevelopmentTrends and Applications **Book Link**
This is a chapter published in the book Explainable AI (XAI) for Sustainable Development Trends and Applications. In this chapter, I have explained how we can use different libraries to explain the output of the Artificial Intelligence model to the end user to increase the trustworthiness of the AI model. by implementing Explainable Artificial Intelligence (XAI). This chapter discusses theoretical as well as mathematical steps to evaluate the trained model. ISBN: 9781032598864

Research Paper
IEEE, TIA
Impact Factor:4.4
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

Research Paper
Springer, Evolving Sys.
Impact Factor:3.2
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

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**
Edited Book named Explainable AI (EXAI) for Sustainable Development: Trends and Applications will be published in CRC Press Taylor & Francis Group. ISBN: 9781032598864

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

Research Paper,
Scientific Reports
Impact Factor:4.6
SCIE

Conceptualizing a Channel-based overlapping CNN tower architecture for COVID-19 identification from CT-scan Images **Research Paper Link**
A Research Paper named Conceptualizing a Channel-based Overlapping CNN Tower Architecture for COVID-19 Identification from CT-scan Images published in Scientific Reports. DOI: 10.1038/s41598-022-21700-8

Research Paper
Springer, LNCV
Impact Factor:0.8
Scopus

Channel-Based Similarity Learning Using 2D Channel-Based Conv. Neural Network **Research Paper Link**
Research Paper named as Channel-Based Similarity Learning Using 2D Channel-Based Convolutional Neural Network published in Springer - Artificial Intelligence on Medical Data, Lecture Notes in Computational Vision and Biomechanics book series (LNCVB, volume 37)

Book Chapter
Scrivener Pub.

Model Evaluation in Fundamentals and Methods of Machine and Deep Learning: Algorithms, Tools and Applications. **Book Link**
This is a chapter published in the book Fundamentals and Methods of Machine and Deep Learning: Algorithms, Tools and Applications. In this chapter, I have explained how we can evaluate different kinds of model such as Computer Vision, NLP, Regression, Classification. and various other kinds of models. This chapter discusses theoretical as well as mathematical steps to evaluate the trained model.ISBN: 10.1002/9781119821908.ch3

Research Paper,
Jrnl. of
Physics & Nanotech.
Impact Factor:0.8
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.

Research Paper
Springer, LNCV
Impact Factor:0.8
Scopus

Channel-Based Similarity Learning Using 2D Channel-Based Conv. Neural Network **Research Paper Link**
Research Paper named as Channel-Based Similarity Learning Using 2D Channel-Based Convolutional Neural Network published in Springer - Artificial Intelligence on Medical Data, Lecture Notes in Computational Vision and Biomechanics book series (LNCVB, volume 37)

Patent
Indian

Video Captioning Using Encoder and Decoder Module **Link**
In this project, we used 3D CNN with LSTM to train the neural network to generate the caption based on the features present in the frames. We word embedding and vectorization for the sanitization of the captions on which we trained our neural network. After training for five continuous days we got the captions which were 92% relevant to the frames of the video. 51/2019, page No. 61314

Patent
Indian

Human Identification Using Gait Analysis and 3D Convolutional Network **Link**
This Project is about human recognition by their gait i.e. walking style by analyzing their gait features. It includes Object detection, Silhouette extraction, Skeletonisation, 3D CNN, and recognition. It took one day to preprocess the 18000 videos of 181 objects from 11 different angles and 8 days to train the network to recognize the object i.e. human by his/her gait features. 01/2020/1, page No. 208

Side Projects

Github Projects **Github repository**
I have worked on many projects some of them have been published in reputed journals/conferences and some of them have been have been used as a proof of concept. These projects involve the implementation of AI. ML, Blockchain, Data pipeline with User Interfaces

---

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. I understand that any false statements or omissions may result in disqualification from consideration for employment/internship.

Name: Ravi Shekhar Tiwari

Signature: RS Tiwari