

Rajeev Ranjan Dwivedi

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EDUCATION

PhD - DATA SCIENCE & ENGINEERING

Bhopal, MP, IN | August 2022 - Present

TCS RESEARCH FELLOW

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH (IISER) BHOPAL

Advisor : Dr. Vinod Kr. Kurmi

Research Area: Fairness in AI, Transfer Learning, Knowledge Graph and LMMs, Uncertainty Estimation

INTEGRATED M.Sc. STATISTICS

Ajmer, RJ, IN | July 2016 - August 2021

CENTRAL UNIVERSITY OF RAJASTHAN

Masters Thesis : Proposed new distribution function - **Skew Laplace Slash Beta** from Slash Family of distribution which is asymmetric, heavy tailed and accounts for extreme values and outliers.

INTERMEDIATE - Class 12th

Gonda, UP, IN | May 2015

FATIMA SENIOR SECONDARY SCHOOL

WORK EXPERIENCE

SONY AI | RESEARCH INTERN

Remote - Full Time | Dec 2023 - March 2024

- Working on explainability with LMMs over Knowledge Graphs.
- Finding efficient path-based approaches for graph traversal and node accountability (non-statistical approaches).

NIT - KURUKSHETRA | RESEARCH INTERN

WFH | Feb 2022 - April 2022

- Implementing Attention Mechanisms to a variety of data sets with special focus on Fake News Classification.
- Making models and pipelines for Automated Legal Judgement Prediction (LJP).

REMISSAS INDIA PVT. LTD. | DATA ANALYST INTERN

Jaipur, RJ, IN | May 2019 - Nov 2019

- Analysed data generated from solar plants and helped in building model to efficiently manage power grids.
- Used pivot tables and created insightful graphics using daily data on energy produced and demanded.

IIM - LUCKNOW | DATA SCIENCE AND ANALYTICS INTERN

Lucknow, UP, IN | Jan 2018 - Feb 2018

- Solved three Harvard Business Review Cases to learn the business analytic and marketing techniques.
- I learnt R programming and the fundamentals of marketing analytics.

PUBLICATIONS

COSFAIRNET: A PARAMETER-SPACE BASED APPROACH FOR BIAS FREE LEARNING

ACCEPTED AT BMVC 2024 (CORE A) [Project Page]

QUANTIFYING UNCERTAINTY IN NEURAL NETWORKS THROUGH RESIDUALS

ACCEPTED AT CIKM 2024 (CORE A) [Project Page]

GRADIENT BASED SOURCE FREE DOMAIN ADAPTATION

UNDER REVIEW

PREDICTING MISSING LIGHT CURVES OF GAMMA-RAY BURSTS WITH BIDIRECTIONAL-LSTM: AN APPROACH FOR ENHANCED ANALYSIS

ACCEPTED AT SPAICE 2024, ECSAT, UK [Project Page]

PROJECTS

WEAKLY-SCRIBBLE-SUPERVISED CAMOUFLAGED OBJECT DETECTION

PYTHON, PYTORCH

Worked on developing a weakly-supervised camouflaged object detection method using scribble annotations and a new network architecture with modules that use semantic and in-out class information for segmentation.

DEBIASING A NETWORK USING SIMULTANEOUS TRAINING OF TWO NETWORKS FAIR LEARNING, PYTHON, PYTORCH, BIAS-FREE LEARNING

The project proposes a debiasing method where one model is trained to be biased, and another model learns to avoid making the same mistakes by using the biased model for debiasing.

IRIS LOCALIZATION AND RECOGNITION USING DEEP LEARNING CV2, PYTORCH, BIOMETRIC

Developed an unsupervised approach for iris localization, extraction, and recognition in non-ideal scenarios, improving the accuracy and robustness of iris recognition systems.

SKILLS

Operating System: Linux, Windows

Programming Languages: R, Python, C, C++, SAS, SQL

Softwares Mathematica, SPSS, MS-EXCEL, Tableau

Tools / Framework Github, Pytorch, Pandas, Numpy, Matplotlib, Seaborn, Markdown, OpenCV, \LaTeX , Amazon AWS

COURSEWORK

Deep Learning, Machine Learning, Natural Language Processing, Spatial Data Science, Data Science in Biometric Systems, Probability Theory, Distribution Theory, Econometrics, Linear Algebra, Real Analysis, Linear Models, Stochastic Models, Inference, Time Series Analysis, Multivariate Statistics, Development Statistics, Statistical Quality Control, Statistical Quality Management, Bayesian Inference, Elementary Reliability Theory, Decision Theory, Sampling Theory.

ACTIVITIES, INTERESTS & AWARDS

- Got selected for **TCS Research Scholar Program (RSP)** (July'24)
- Awarded **Prof. Ram Kumar Fellowship** (July'24) for attending GAME-ARTS, IISc Bangalore
- Awarded student grant for attending **IndoML'23** at IIT-Bombay. (December'23)
- Attended 7th Summer School on AI at CVIT, IIIT-Hyderabad (July'23)
- Attended SERB Funded Workshop on Synergizing Healthcare Services and Affective Computing using Deep Learning at IIT Indore (July'23)
- Awarded **ACM Anveshan Setu Fellowship** for 2023.
- Holding **Program Coordinator** position in the **Caring Hands Foundation** - an NGO recognized by UN Global Compact Network.
- **University Student Head** of Institute Innovation Council (IIC) - an initiative of MHRD (Ministry of Human Resource and Development) for fostering innovations in intuitions.
- Initiated University Magazine **ASTITVA** and worked as Chief Editor for 2 consecutive years.
- Received best presentation award twice among 500+ students during Data Science and Analytics internship.

AREA OF INTEREST

Fair Learning, Domain Adaptation, Computer Vision, Deep Learning, Statistical Machine Learning, Knowledge Graphs, LMMs.
