

Priyankar Choudhary

Machine Learning Researcher and Data Analyst

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LinkedIn Google Scholar Scopus

Profile

AI Researcher and Data Scientist with experience in developing and implementing machine learning models and conducting innovative research. Completed a Ph.D. in the Computer Science Engineering Department at IIT Ropar, India. Skilled in designing experiments, analyzing datasets, and utilizing computational tools to extract meaningful insights. Proficient in working with various machine learning frameworks and libraries to achieve research objectives, including experience with large language models such as LLaMA2 and GPT.

Areas of Expertise

Machine Learning and AI - Large Language Models (GPT-3.5, GPT-4, LLaMA2) - Zero-shot Learning - Few-shot Learning - Transfer Learning - NVIDIA-TAO - Data Science - Data Cleaning - Data Preprocessing - Exploratory Data Analysis - Statistical Analysis - TensorFlow - PyTorch - scikit-learn - Hugging Face Transformers - Data Visualization (Matplotlib, Seaborn, Plotly) - Reporting and Presentations

Professional Experience

Postdoctoral Researcher, (*EveryWare Lab, University of Milan*) **Milan, Italy** 09/2023 - present

- Developed a model focused on enhancing usage of language models for smart-home assistance application.
- Implemented innovative approaches to improve the efficiency and intelligence of language models.

Education

Ph.D. Computer Science & Engineering *Indian Institute of Technology* **Ropar, India** 2018-2023
Multimedia Systems, Mobile Wireless & Ad Hoc Networks, Advanced Computer Architecture, Data Structures & Algorithms.

M.Tech Computer Science & Engineering *The LNM Institute of Technology* **Jaipur, India** 2015-2017
Relevant Courses: Machine Learning & Pattern Recognition, Big Data & Analytics, Data Mining, Information Retrieval & Web Search

B.Tech Information Technology *University College of Engineering* **Kota, India** 2010-2014

Certifications, Achievements, & Extracurricular Activities

- Deep Learning (June 2018) - [Swayam \(NPTEL\)](#)
- Huawei HCIA-AI V3 Certification (2018) - [Huawei](#)
- Structuring Machine Learning Projects (2018) - [Coursera](#)
- Convolutional Neural Network (2018) - [Coursera](#)
- Neural Networks and Deep Learning (2018) - [Coursera](#)
- Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization (2018) - [Coursera](#)

Publications: Journal

- Choudhary P**, Goel N, Saini M. **A Survey on Seismic Sensor based Target Detection, Localization, Identification, and Activity Recognition**, ACM Computing Surveys. 2023 Feb., 55(11), Pages 1-36, **Impact Factor: 14.32, H-Index: 172**.
- Choudhary P**, Kumari P, Goel N, Saini M. **An Audio-Seismic Fusion Framework for Human Activity Recognition in an Outdoor Environment**. IEEE Sensors Journal. 2022 Sep., 22(23), Pages 22817-27, **Impact Factor: 4.32, H-Index: 132**.

3. **Choudhary P**, Goel N, Saini M. **A Fingerprinting based Audio-Seismic Systems for Human Target Localization in an Outdoor Environment using Regression**. IEEE Sensors Journal. 2022 Feb., 22(8), Pages 7944-7960, **Impact Factor: 4.32, H-Index: 132**.
4. Ukhey A, Bedi AK, **Choudhary P**, Ooi WT, Saini M. A highly robust deep learning technique for overlap detection using audio fingerprinting Multimedia Tools and Applications. 2024 Mar., 83(10), Pages 29119-29137, **Impact Factor: 3, H-Index: 106**.
5. Kumari P, **Choudhary P**, Kujur V, Atrey P, Saini M. **Concept Drift Challenge in Multimedia Anomaly Detection: A Case Study with Facial Datasets** Signal Processing: Image Communication. 2024 Jan., 123, Page 117100, **Impact Factor: 3.4, H-Index: 99**.

Publications: Conferences

1. Bhatt R, Singh S, **Choudhary P**, Saini M. **An Experimental Study of the Concept Drift Challenge in Farm Intrusion Detection using Audio**. In proceedings of 18th IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS) Nov. 2022.
2. **Choudhary P**, Kumari P., Goel N. and Saini M. **Low-Intensity Human Activity Recognition Framework using Audio Data in an Outdoor Environment**. In 7th International Conference on Computer Vision and Image Processing (CVIP) Nov. 2022.
3. Singhal G, **Choudhary P**, Abhishek V, Sweetey S, Subramanian S, Goel N. **Cattle Collar: An End-to-End Multi-Model Framework for Cattle Monitoring**. In Proceedings of 5th IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR) Aug. 2022.
4. **Choudhary P**, Goel N, Saini M. **A Seismic Sensor based Human Activity Recognition Framework using Deep Learning**. In Proceedings of 17th IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS) Nov. 2021.
5. **Choudhary P**, Goel N, Saini M. **Event Detection and Localization for Sparsely Populated Outdoor Environment Using Seismic Sensor**. In Proceedings of IEEE 6th International Conference on Multimedia Big Data (BigMM) Sep. 2020.
6. **Choudhary P**, Goel N, Saini M. **A multimedia based movie style model**. In Proceedings of IEEE International Conference on Multimedia & Expo Workshops (ICMEW) July 2019.
7. **Choudhary P**, Kant V, Dwivedi P. **A particle swarm optimization approach to multi criteria recommender system utilizing effective similarity measures**. In Proceedings of 9th International Conference on Machine Learning and Computing Feb. 2017.
8. **Choudhary P**, Kant V, Dwivedi P. **Handling natural noise in multi criteria recommender system utilizing effective similarity measure and particle swarm optimization**. In Proceedings of Procedia computer science. Jan. 2017.

Skills

- **Machine Learning Frameworks:** TensorFlow, PyTorch, Scikit-Learn
- **Data Analysis and Visualization:** Pandas, NumPy, Matplotlib, Seaborn
- **Programming Languages:** C++, Python, MATLAB
- **Tools and Libraries:** VSCode, Docker, Hugging Face Transformers, OpenCV
- **Communication and Presentation:** Technical Writing, Conference Presentations

Languages

• **Hindi** [Native]

• **English** [Professional and working efficiency]

References

(1) Dr. Neeraj Goel (Assistant Professor)
Ph.D. Thesis Supervisor

Department of Computer Science & Engineering

Email: neeraj@iitrpr.ac.in

Indian Institute of Technology (IIT) Ropar

(2) Dr. Mukesh Saini (Assistant Professor)
Ph.D. Thesis Supervisor

Department of Computer Science & Engineering

Email: mukesh@iitrpr.ac.in

Indian Institute of Technology (IIT) Ropar

(3) Dr. Vibhor Kant (Assistant Professor)
M.Tech Thesis Supervisor

Department of Computer Science

Email: vibhor.kant@bhu.ac.in

Banaras Hindu University (BHU), Varanasi

(4) Dr. Pragya Dwivedi (Assistant Professor)
Department of Computer Science & Engineering

Email: pragyadwi86@mnnit.ac.in

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(MNNIT) Allahabad