

Dr. Inder Pal SINGH

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[Website \(Work in Progress\)](#), [LinkedIn](#), [Google scholar](#)

Location: Munsbach, Luxembourg | Work permit: Not required | Nationality: INDIA

Professional Summary

I am an AI researcher with over 14 years of combined academic and industry experience, including 6+ years in AI research and 8+ years in data engineering and data science. Proven track record in designing, deploying, and scaling AI solutions across domains such as space, education, deepfake and FinTech. Worked on minimizing domain-gap in earth observation image classification. Strong foundation in machine learning including deep learning, and computer vision. Experienced in communicating research outcomes clearly to diverse audiences through outreach and teaching.

Education

Ph.D. in Computer Science (AI & Vision) – University of Luxembourg

M.S. in Computer Vision (Best Student Award) – Université de Bourgogne, France

B.E. in Electronics & Communication (1st division with honors) – MDU, India

Languages

English (Fluent), French (Intermediate), Hindi (Native)

Core Skills

- Machine Learning & Deep Learning: Scikit-learn, TensorFlow, PyTorch, Keras, Time Series Models (RNNs, LSTMs, GRUs)
- NLP & LLMs: GPT-4, Mistral, OpenAI, PydanticAI, Prompt Engineering, LoRA, RAG
- AI/ML Deployment & Scaling: CI/CD, Docker, HPC, AWS, MLOps best practices
- Data Engineering & Pipelines: SQL, Pandas, NoSQL, Spark, Hadoop
- Tools & Interfaces: Streamlit, Tkinter
- Programming Languages: Python, Bash, MATLAB

Professional Experience

Postdoctoral Researcher

University of Luxembourg | 2024 – Present

- Integrated advanced LLM models (GPT-4, Mistral) for adaptive education platforms and automated regulatory compliance reporting (e.g., AML compliance).
- Experience with building deployable models using frameworks like Pydantic AI.
- Designed AI pipelines for spacecraft pose estimation using CNNs and Transformers for ESA funded European project.
- Led technical documentation and reproducibility workflows for deployment on HPC and cloud infrastructure.

Ph.D. Researcher – Machine Learning & Computer Vision

University of Luxembourg | 2020 – 2024

- Developed ML models for scene understanding via multi-label classification, deepfake detection, and cross-domain learning using GNNs and CNNs.
- Conducted robust benchmarking using PyTorch, OpenCV, and Scikit-learn with publications in IEEE WACV, AACL, and MMSP.
- Participated and led several outreach activities within Luxembourg including Smart Schoul 2025, ESCH 2022: Sound of Data and Asteroid Day 2024 etc.

Lead Data Analyst

TeliaSonera AB via TCS | Sweden | 2013 – 2018

- Led a 14-member team delivering data analytics to optimize B2B broadband network performance with individual contributions.
- Deployed data-driven based decisions that reduced man-hours by 30% and sustained SLA-driven operations.
- Managed KPI analysis, report generation, and stakeholder communication for multi-region telecom projects.

GIS Data Engineer

Techsignia Solutions (Saudi Aramco Project) | India | 2011 – 2013

- Built data pipelines for geospatial networks using ArcGIS, SQL, and Telcordia tools.
- Optimized telecom asset planning and reporting workflows for large-scale infrastructure mapping.

Data Engineer – Enterprise Solutions

Infinite Telesolutions | India | 2009 – 2011

- Developed and maintained telecom applications and automation frameworks for service provisioning and system monitoring.
 - Supported end-to-end software lifecycle including backend integrations and live dashboard implementations.
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Part-time (in-kind) Engagements

Lecturer – AI & Data Science

European Business Institute of Luxembourg (EBU), a non-for-profit organization,
Luxembourg | Part-Time (in-kind) | 01/2022 – Present

- Teach master's level courses for the MSDA (Master of Science in Data Science and Artificial Intelligence) program including Statistics, Machine Learning, Deep Learning, and Natural Language Processing (NLP).
- Mentor and assess graduate students through hands-on projects and AI research.