ADITYA ARORA

Digital Transformation & AI Specialist · Public Sector · International Development

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PROFILE

Digital transformation and AI professional with **11+ years** across the **United Nations Industrial Development Organization (UNIDO)** and the **Government of India**, including 6+ years leading Industry 4.0, digital-platform and AI-enabled technical cooperation. Pairs an **M.Tech in AI & Machine Learning** (BITS Pilani) with an **M.Sc. in Economics** to connect frontier technology with policy and development outcomes. Trusted adviser to senior government officials; hands-on in the architecture and responsible deployment of AI/ML systems for public-sector, industrial, trade and agricultural applications.

11+	275+	60+	4
years in public policy & development	MSMEs supported (UDAY-PRIDE)	Industry 4.0 maturity assessments	Japan–India technology demonstrations

CORE EXPERTISE

AI systems & data	Solution architecture · data-readiness assessment · data pipelines & schema contracts · LLMs & retrieval (RAG) · open-weight models · semantic search · deep learning · computer vision · explainable & responsible AI
Digital transformation	Industry 4.0 · digital-maturity diagnostics · use-case & feasibility assessment · technology-adoption roadmaps · digital platforms · open APIs & interoperability · digital public infrastructure · technology transfer
Policy & delivery	AI governance · government policy dialogue · technical assistance · project-cycle management · results frameworks · data-driven monitoring · capacity building · human-in-the-loop pilot design
Sectors	Manufacturing & MSMEs · agriculture · international trade · circular economy · resource efficiency

PROFESSIONAL EXPERIENCE

National Project Associate

Apr 2020 – Present

United Nations Industrial Development Organization (UNIDO) · New Delhi

- Coordinate technical-cooperation workstreams in UNIDO's **Digitalization, AI and Innovation** portfolio — industrial transformation, technology transfer, circular economy and South–South cooperation — converting programme objectives into workplans, partner actions and measurable milestones.
- Led **Industry 4.0 digital-maturity assessments for 60+ automotive MSMEs**, translating diagnostics into **9+ technology-adoption roadmaps** and facilitating 3+ advanced-technology deployments.
- Supported **275+ MSMEs** under UDAY-PRIDE; managed the Industry 4.0 Assessment Portal, e-learning platform and knowledge channels; delivered 3+ courses to 100+ participants (40% women).
- Support delivery of **four METI-funded Japan–India demonstrations**: compressed-biogas and fertiliser value chains; AI/ML- and blockchain-enabled manufacturing and mobility-circularity platforms on open APIs; O-RAN rural 5G with local radio-unit manufacturing; and AI-based CAD for 3D-printed prosthetics.
- Delivered India's first demonstration of Japan's **IMEC film-farming technology** under the Industrial Vocational Training Programme — 106 farmers, entrepreneurs and students trained, 40% women, 94% satisfaction.
- Contribute to donor-funded programme design, including **GEF-8 project 11188** on circular solutions to plastic pollution from food and beverage packaging — situation analysis, consultations, intervention design and results logic.
- Author decision-ready briefs, concept notes, ToRs, project documents and results frameworks; convene government, industry, academia, civil society and international partners.
- Contributed to UNIDO's published analysis of Industry 4.0 and digitalisation in India's automotive-component sector, and to learning content on lean manufacturing, MFCA and RECP.

Young Professional
Oct 2018 – Mar 2020

Agriculture Trade Policy Division, Ministry of Agriculture & Farmers' Welfare · New Delhi

- Analysed agricultural trade, market-access and export issues and turned evidence into policy notes and recommendations for senior officials and intergovernmental processes.
- Drafted India's inputs for the **7th WTO Trade Policy Review** and WTO Committee on Agriculture queries; contributed to positions in multilateral and bilateral negotiations including **RCEP**.
- Built product–country opportunity mapping to prioritise export markets and proposed specialised agriculture cells in Indian missions abroad.
- Prepared meeting briefs, records of discussion and follow-up actions, coordinating inputs across ministries and partner institutions.

Research Associate / Research Fellow
Aug 2015 – Sep 2018

Ministry of Commerce & Industry · New Delhi

- Produced economic and trade-policy analysis on regional integration and external economic developments for the Indian economy.
- Supported **RCEP negotiations** (including the XIX round) and the **India–US Trade Policy Forum**, translating outcomes into analytical inputs and action points.
- Reviewed schemes proposed by other ministries through inter-ministerial processes; contributed data-driven recommendations to the **Group of Secretaries**' sector review, including Industry 4.0.

SELECTED AI & DIGITAL WORK

- **Policy-intelligence LLM.** Architected a retrieval system over public information using open-weight models and Python workflows for semantic search, structured knowledge extraction and automated policy-brief synthesis.
- **AI-enabled Material Flow Cost Accounting** (M.Tech dissertation). End-to-end, pilot-ready prototype for circular manufacturing: schema contracts, deterministic MFCA logic, anomaly screening, reject/scrap/energy prediction, constrained recommendations and dashboards — with a human-in-the-loop deployment pathway covering validation, explainability, monitoring and auditability.
- **Explainable AI for credit decisions.** Neural-network classifier with LIME, SP-LIME and SHAP comparisons, leakage controls and stratified cross-validation.

EDUCATION

M.Tech, Artificial Intelligence & Machine Learning — 2024 – Present

BITS Pilani · Specialisation: Deep Learning · Dissertation: *Closing the Loop with Intelligence — AI for the Circular Economy in Manufacturing*

M.Sc. Economics (International Trade) — 2011 – 2013

Symbiosis International University · Thesis: *Energy Access in India: A Household-Level Analysis*

Bachelor of Computer Applications — 2007 – 2010

Guru Jambheshwar University of Science & Technology

DOEACC 'O' Level (Business Professional Programmer)

NIELIT

TRAINING & CERTIFICATIONS

- Base SAS Certified · CGE-GTAP modelling workshop, Centre for WTO Studies (IIFT)
- Management Development Programme on WTO & International Trade (IIFT) · International Treaty Negotiation workshop (Centre for Trade & Investment Law)
- WTO E-Campus: Regional Trade Agreements · Rules of Origin · Trade Remedies · Trade & Environment · Agriculture · AIMS · Trade Facilitation Agreement

RECOGNITION & INTERNATIONAL ENGAGEMENT

- **Gender Equality Mobilization (GEM) Award 2023**, 20th session of the UNIDO General Conference, Vienna
- Participant, Vienna Energy & Climate Forum 2023 (AI for industry and manufacturing)
- International study tour to Mexico on supply-chain development, Industry 4.0, circular economy and innovation linkages

LANGUAGES

English — full professional · Hindi — full professional · French — elementary