

Adarsh Dipakbhai Pala

Master of Business Analytics & Technology Management

CGPA: 7.9

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ACADEMIC PROFILE

Master of Management — Master of Business Analytics & Technology Management	7.9	Indian Institute of Science	2025-2027
B.Tech — Mechanical Engineering	7.37	Nirma University	2021
Class XII (GSEB)	89.00	Modi School	2017
Class X (GSEB)	93.93	Modi School	2015

INTERNSHIPS

3 MONTHS

Atlas Copco India Ltd. AI/ML Intern

01-May-2026 to 30-Jul-2026

- Built AI systems that turn complex engineering drawings and CAD knowledge into structured, searchable intelligence — achieving $mAP@0.5 = 0.97$ and $mAP@0.5:0.95 = 0.87$.
- Trained YOLOv11s to detect symbols on large industrial diagrams ($mAP 0.97$), then used PaddleOCR to read instrument tags and extract connectivity graphs automatically — an end-to-end P&ID digitisation pipeline.
- Built a multi-agent CAD copilot for Autodesk Inventor using LangGraph supervisor-worker architecture with a reflection-based reviewer over a Chroma RAG knowledge base, MCP tool server, per-step tracing, and deterministic guardrails.

PROJECTS

Fetal Skull Landmark Detection & Segmentation — Deep Learning Research (PyTorch + U-Net + CNN)

- Conducted independent deep learning research on medical imaging — detecting fetal skull landmarks and segmenting the cranium from noisy ultrasound images where no off-the-shelf model existed; performed literature survey, reproduced baselines, extended with custom CNN regression + U-Net segmentation with ellipse fitting, running proper ablations across three model variants.
- Trained and fine-tuned on healthcare imaging data; adapted architectures for domain-specific challenges (low SNR, anatomical variation) — shifting evaluation to clinically meaningful measurement reliability; applied MSE/BCE loss functions and documented all failure modes systematically.
- Achieved 0.88 Dice score for segmentation and 3.1 px MAE for landmark detection; demonstrated the full research lifecycle — problem formulation, data pipeline, model training, evaluation, and reporting — with production-quality PyTorch code and meticulous experiment documentation.

SwingLoop — Computer Vision Pipeline for Sports Biomechanics (PyTorch + TrackNetV2 + MediaPipe)

- Self-initiated an end-to-end computer vision pipeline to analyse tennis serves — detecting racket, ball, and precise contact frame using TrackNetV2 ball tracking, MediaPipe/ViTPose pose estimation, and multi-signal fusion (trajectory + audio + pose); built as a modular FastAPI microservice with experiment tracking.
- Extended CNN and Transformer-based architectures for ball detection and phase detection; implemented One-Euro adaptive filter and Kalman Filter for temporal consistency; engineered trajectory classification to distinguish contact from bounce.
- Achieved 97.6% count-level agreement; comfortable with Linux, Git, and GPU-based training pipelines — demonstrating ability to work independently on open-ended research problems with full autonomy.

PUBLICATIONS

- [Machine vision-based gradient-boosted tree and support vector regression for tool life prediction in turning](#)
 - Co-authored a peer-reviewed research paper on machine vision-based tool life prediction, applying image processing and machine learning (implemented in MATLAB) to real-world manufacturing data and achieving up to 97% prediction accuracy.

CERTIFICATIONS

AWS Certified Machine Learning Engineer — Associate	Amazon Web Services	2025
Project Management Professional (PMP)	Project Management Institute (PMI)	2025
2025 AI-Integrated Leadership Program	Aspire Institute	2025
WorldQuant Gold Alpha Challenge	WorldQuant	2026

WORK EXPERIENCE

36 MONTHS

Xylem Water Solutions India Pvt. Ltd Sr. Engineer **Apr '22 – Apr '25**

- Support Distributors, Key accounts & End Customers. I work with sales managers on Pre-bid & Post-Bid Tenders.
 - Select pumps in line with customer specifications and project requirements.
 - Prepare technical proposals, including clarifications and deviation lists, based on customer requirements during the bidding process.