Ayush Abhijeet Deo

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SUMMARY

Product-focused developer with experience of AI, data, and business strategy. Skilled in feasibility modeling, pricing analysis, workflow automation, and launch optimization for digital products. Has led AI-driven initiatives across finance, publishing, and marketing, leveraging analytics, experimentation, and platform insights to improve adoption, performance, and scalability.

EDUCATION

University of Southern California, Viterbi School of Engineering   August 2025-May 2027
Masters of Science, Computer Science
Positions:
- Daily Trojan Social Media Design Staffer
- Graduates Rising in Informatics and Data Science, ICU-Multimodal (Healthcare AI) Project Lead

NMIMS's Mukesh Patel School of Technology Management & Engineering   September 2021-May 2025
Bachelor of Technology, Information Technology - **CGPA: 3.62/4.0**
Honors:
- MPSTME Student Award Winner (Technical Research) – Batch of 2025
- Student Ambassador Award – Batch of 2025

PROFESSIONAL EXPERIENCE

BRUCE SMOLEN BOOKS (Author)   LOS ANGELES, USA
Pro-Bono Consultant – Business & Digital Strategy   October 2025-December 2025
- Enabled data-driven format and pricing decisions by building feasibility and profitability models using Amazon KDP cost/royalty structures, market benchmarks, and scenario analysis
- Improved post-launch conversion readiness by designing scalable launch workflows (ARC funnels, email capture, cadence tracking) using platform analytics and light automation

TATA CONSULTANCY SERVICES   MUMBAI, INDIA
AI/ML Intern – Cloud.AI Division   January 2025-June 2025
- Improved fraud-analysis operations efficiency by 25% by designing a graph-based customer network analytics solution (Azure Databricks to Cosmos DB Gremlin pipeline), modeling entities and transactions for scalable traversal
- Reduced analyst prep time and query latency (3ms to 1ms across 200 daily traversals) by embedding role-based, auth-gated graph queries (community detection, shortest path, fraud rings) into a banking module UX
- Automated 60% of manual decision workflows by building a 7-agent hierarchy in Microsoft Copilot Studio to handle triage, retrieval, enrichment, and decisioning with policy guardrails
- Improved model quality and trust by instrumenting telemetry for accuracy, action success, and false positives, lifting action success 20% and reducing false positives 35% across 200 pilot runs
- Compressed portfolio reporting cycles from weeks to minutes for 2 global banks by deploying multi-agent reporting pipelines (Azure OpenAI Foundry: TinyLLaMA + Azure AutoGen) integrating structured data, unstructured RAG pipelines, and live calculation services with citation checks

BELLEVIDCO (Digital Strategy Consultancy)   MUMBAI, INDIA
Co-Founder   June 2023-June 2025
- Generated $12,000 revenue at ~70% margins by delivering design strategy, branding, digital strategy, marketing planning, and analytics-driven media execution for SMB clients
- Increased consumer engagement by 10% across two segments by leading market research, competitive analysis, and trend synthesis to define quarterly action plans with a 5-member strategy team
- Improved client ROI while scaling visibility (200% reach increase; 25% cost reduction) by applying web analytics, campaign optimization, and media planning frameworks
- Scaled delivery capacity and execution quality by recruiting and mentoring 8+ specialists (web, content, media) and standardizing resource allocation and budget controls

COMPUSOFT ADVISORS (Microsoft Solution Partner)   MUMBAI, INDIA
AI Intern   May 2024-July 2024
- Reduced manual data-entry effort by 50% by shipping an AI-powered DMS automation feature adopted by 20+ dealership managers, using entity extraction and record auto-population workflows in Azure Power Apps and Azure Power Automate
- Improved operational task completion and ROI visibility by integrating Copilot Studio workflows for knowledge retrieval and action orchestration with usage and completion telemetry

RESEARCH EXPERIENCE [6 PAPERS PUBLISHED]

Bridging AI and Branding: Enhancing Consumer Engagement with Sentiment-Aware Caption Generation

- Analyzed sentiment-aware image captioning models to improve consumer engagement in social media marketing; compared model performance using customized sentiment tagging. *International Journal of Engineering, Science, and Information Technology.*

Unveiling Biases via Proactive Detection and Analysis of Racism in GPT-4o-mini
- Evaluated racial bias risks in LLM outputs by testing GPT-4o-mini across multiple domains and triangulating results with training-data literature. *International Springer Conference Paper*

Implementation of a Unified Deepfake Detection Model to Mitigate Business Risk
- Designed a multimodal deepfake detection framework (audio, video, image) to mitigate enterprise risk from synthetic media. *International Springer Conference Paper*

Implementation of a Deep Learning based ICT model to Solve the Problem of Enroute Confirmation of Wait-Listed Tickets in Indian Railways
- Proposed a data-driven seat-allocation optimization system for Indian Railways using deep learning to improve transparency and reduce revenue leakage, enhancing transparency, minimizing losses, and curbing malpractices in ticket allotment. https://doi.org/10.1007/978-981-96-3352-4_23

Examining McDonald's Operational Strategies: An Integrated Application of Regression and Social Media Sentiment Analysis
- Combined traditional business metrics with sentiment analysis to evaluate McDonald's operational strategies, providing actionable insights for enhancing customer satisfaction, loyalty, and market position in a sentiment-driven landscape. *Presented at PAN IIM 2023*

Empirical Analysis of Growth of the IT Sector in India and its Sustainability in the Future
- Modeled long-term sustainability of India's IT sector using regression analysis to identify structural growth drivers. https://doi.org/10.1007/978-3-031-56586-1_27

KEY SKILLS

Programming Languages: Python, Javascript, C++, SQL
ML / DL: HuggingFace Transformers, (tiny) LLMs, predictive analytics, model/algorithm development; CNN/NLP; TensorFlow/Keras
Big Data & Data Processing: Azure Databricks (Big Data, SQL), data pipelines, data source identification, processing, data management
Visualization / BI: Plotly Dash, Power BI, Tableau
Cloud & MLOps: Microsoft Azure (OpenAI Foundry, Cognitive Services), AWS, OCI; REST APIs, GitHub Actions
Other: LangChain, FastAPI, React.js, OpenCV, FAISS/Chroma, Report automation (.docx/PDF)

Skills: Project Leadership, Team Management, Outcome-Oriented Research, Presentation Skills, Strong and Effective Communication Skills (English, Marathi, Hindi [Professional Proficiency]), Technical Report Writing, High-Level Software Investigative Skills