Ayush Abhijeet Deo

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EDUCATION

University of Southern California, Viterbi School of Engineering   August 2025-May 2027
Masters of Science, Computer Science - **CGPA: 3.4/4.0**
Positions:
- Daily Trojan Social Media Design Staffer
- GRIDS USC Director of AI & Data Innovation, 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 (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
- Improved book pricing and format decisions by modelling profitability across print and digital options, incorporating Amazon KDP royalties, production costs, and market benchmarks
- Increased launch readiness and early conversion potential by designing a repeatable release workflow, including ARC distribution, email capture, and performance tracking using platform analytics and light automation

TATA CONSULTANCY SERVICES   MUMBAI, INDIA
AI/ML Intern – Cloud.AI Division   January 2025-June 2025
- Reduced financial fraud investigation time by 40% by mapping customer transactions into network graphs, enabling faster identification of suspicious relationships (Azure Databricks to Azure Cosmos DB Gremlin pipeline)
- Cut analyst preparation time and sped up fraud queries by 300% by embedding secure, role-based network analysis (fraud rings, shortest paths, community detection) directly into a banking application UI/UX
- Automated 60% of manual fraud-review decisions by deploying a 7 agentic AI system that gathered context, enriched data, and recommended actions within policy constraints (Microsoft Copilot Studio)
- Improved decision accuracy and finance analyst trust by tracking LLM model performance and errors in real time, increasing successful actions by 20% and reducing false positives by 35% across 200 pilot runs
- Reduced investment portfolio reporting cycles from weeks to minutes for two global banks by automating data retrieval, analysis, and report generation using multi-agent AI pipelines (Azure OpenAI Foundry, AutoGen, RAG with citation checks)

BELLEVIDCO (Digital Strategy Consultancy)   MUMBAI, INDIA
Co-Founder   June 2023-June 2025
- Built a profitable digital design consultancy generating $12,000 in revenue at 70% margins by delivering end-to-end brand, design, and marketing strategies for commerce, fashion and entertainment clients
- Increased customer engagement by 30% across two market segments by leading market research, competitive analysis, and trend synthesis to define quarterly growth initiatives with a 5-member strategy team
- Improved client ROI while expanding reach by 200% and cutting acquisition costs by 25% through data-driven campaign optimization, media planning, and web analytics
- Scaled delivery capacity and execution quality by recruiting, mentoring, and managing 8+ specialists (web, content, media) and standardizing budgets and resource allocation

COMPUSOFT ADVISORS (Microsoft Solution Partner)   MUMBAI, INDIA
AI Intern   May 2024-July 2024
- Cut manual data-entry work by 50% by delivering an AI-powered document automation feature adopted by 20+ dealership managers, using entity extraction and auto-population workflows (Azure Power Apps, Azure Power Automate)
- Improved task completion rates and ROI visibility by integrating AI-assisted knowledge retrieval and action workflows with usage and completion tracking (Microsoft Copilot Studio)

RESEARCH EXPERIENCE [6 PAPERS PUBLISHED]

Bridging AI and Branding: Enhancing Consumer Engagement with Sentiment-Aware Caption Generation
- Improved understanding of how emotional tone in AI-generated captions affects consumer engagement by evaluating sentiment-aware image captioning models for social media marketing using customized sentiment tagging. *Under Review.*

Unveiling Biases via Proactive Detection and Analysis of Racism in GPT-4o-mini

- Identified and quantified racial bias risks in LLM-generated content by systematically testing GPT-4o-mini across multiple real-world domains and validating findings against training-data literature *International Springer Conference Paper*

Implementation of a Unified Deepfake Detection Model to Mitigate Business Risk
- Developed a multimodal deepfake detection framework to reduce enterprise risk from synthetic media by integrating audio, image, and video signals. *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 to reduce revenue leakage and improve transparency in Indian Railways by applying deep learning to ticket confirmation workflows DOI: 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
- Generated actionable insights on customer satisfaction and loyalty drivers by combining operational performance metrics with social media sentiment analysis. DOI: *Presented at PAN IIM 2023*

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

KEY SKILLS

Programming Languages: Python, JavaScript, C++, SQL
Technical Skills: API development, Text/image/audio modeling concepts, LLM application design, Feature engineering, Model evaluation & error analysis, Decision-oriented analysis, Tool-using AI workflows, Performance optimization
Other Skills: English, Marathi, Hindi (Professional Proficiency), Applied research, Cross-functional execution, Stakeholder communication, Ownership from prototype to deployment,