SNEHAL NAIR

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EXECUTIVE SUMMARY

Senior-level Artificial Intelligence (AI) and Machine Learning (ML) leader with 10+ years of global experience delivering enterprise AI strategy, platform scaling, and applied innovation. Proven success in building AI functions from inception, scaling teams from 0 to 12+ members, and deploying production-grade Generative AI (GenAI) and Agentic RAG systems. Published researcher (ACM KDD 2025) focused on the economic optimization of LLMs and high-stakes AI governance. Expert at aligning technical rigor with business growth, having delivered £50M+ in measurable impact.

CORE COMPETENCIES

- **Strategy & Leadership:** AI Roadmap Execution, Enterprise AI Governance, Cross-Functional Team Building, Global Stakeholder Management.
- **Generative AI & LLMOps:** Agentic AI Systems, Multi-stage RAG/GraphRAG, Self-Critiquing Pipelines, Cost-Aware Prompt Optimization.
- **Applied Machine Learning:** Personalization (MAB), Learning-to-Rank (LTR), NLP/ABSA, Computer Vision, Real-Time ML Infrastructure.
- **Operational Excellence:** MLOps, Ablation-First Research Culture, Automated Safety Gates, Latency Optimization (<50ms P95).

PROFESSIONAL EXPERIENCE

VIATOR (TRIPADVISOR GROUP) | London, UK **Machine Learning Manager (Head of AI)** | Mar 2022 – Dec 2025

- **AI Function Inception:** Built and scaled the AI function from 0 to 12+ Principal and Senior Scientists, establishing an "Ablation-First" culture that justified every deployment via ROI and cost-performance.
- **Strategic Impact:** Delivered £50M+ in business impact through a suite of AI products, including Search Optimization, Personalized Recommendations, and Image Enhancements.
- **GenAI & LLMOps:** Built policy-compliant LLM infrastructure (AWS, TogetherAI) with traffic control and observability, reducing cost-per-inference by 27%.
- **Responsible AI Governance:** Designed a "Critic-at-the-Edge" Safety Gate that reduced high-risk incidents by 92% with <10ms validation latency.
- **Thought Leadership:** Lead author for ACM KDD 2025 research on cost-aware prompt optimization; co-designed GenAI research programs with the University of Edinburgh.

SCOTTISH POWER | Glasgow, UK **Lead Data Scientist** | Oct 2019 – Mar 2022

- **Predictive Analytics:** Led development of statistical and ML models for energy forecasting, customer churn (propensity), and NILM-based energy disaggregation.
- **Capability Building:** Founded the internal "ML Academy" to accelerate AI literacy and cross-organizational adoption of advanced analytics.

QUERYCLICK | Edinburgh, UK **Senior Data Scientist** | Sep 2019 – Sep 2020

- **High-Scale Modeling:** Built deep learning attribution models (CNN-RNN, LSTM) processing 4M+ daily events; improved attribution accuracy by 30% post-cookie deprecation.

NIELSEN | Dubai, UAE **Senior Data Science Manager** | Jul 2012 – Oct 2016

- **Regional Leadership:** Led a 15-member team delivering ML solutions in telecom, retail, and media across the Middle East and North Africa.
- **Operational Excellence:** Reduced project delivery timelines from 90 days to 5 days via workflow automation; recognized with the "Excellence in Leadership Award".

KEY TECHNICAL PROJECTS

- **Project: Cost-Aware Automatic Prompt Optimization (APO):** Built a hybrid APE-OPRO architecture that matched SOTA performance while reducing API costs by 18% and optimization time by 33%.
- **Project: Real-Time Personalized Search (Ranker V2):** Deployed a two-stage Learning-to-Rank system (LightGBM + DCN-v2) achieving a +9.5% conversion lift and reducing P95 latency to 47ms.
- **Project: Knowledge Governance (GraphRAG):** Built a self-adaptive five-stage RAG pipeline using Neo4j to manage FAQ truth propagation, reducing hallucinations by 90% and support tickets by 34%.
- **Project: Review Summarization at Scale:** Developed a multilingual ABSA and opinion clustering pipeline that reduced LLM token usage by 82% and maintained 94% theme coverage.

SKILLS

Python, PyTorch, PySpark, SQL, LangChain, LangGraph, Hugging Face, BERT, BARD, LightGBM, AWS, BigQuery, Qdrant, Redis, Arize, Valohai, Seldon (Kubernetes), Airflow, TogetherAI.

EDUCATION

- **M.Sc. Data Science** | Lancaster University, UK
- **MBA (Marketing & Analytics)** | Lucknow University, India
- **B.Sc. Chemistry** | Mumbai University, India