MOHIT AGGARWAL

Technical Product & Data Systems Lead with 10+ years' experience architecting data-intensive applications and automated decision engines. Expert in translating regulatory rules into technical solutions for the Insurance and Environmental sectors. Leveraging Python, SQL, and Generative AI to modernize legacy systems and drive measurable value.

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EXPERIENCE

Technical Product Manager, Data Science

Public Storage, Glendale, CA   Jun 2022 - Present

Defined and executed product strategy and roadmap for key revenue generating initiatives through data-driven solutions, to elevate customer experience; drove cross-functional adoption of new technologies.

- Architected the computational logic for a dynamic pricing engine integrating inventory, competitor, promotions, and demand signals using python-based algorithms and machine learning techniques; achieved a **3.2% revenue lift ($3.2M annual impact**) and a **66% reduction in cycle time**.
- Developed and launched a recommendation engine leveraging customer behavior data and diverse data signals, resulting in a **1.4% reservation rate increase ($3M CLTV impact)** through A/B testing and iterative model improvement.
- Advanced a first-party data initiative, partnering with the website performance team to replace third-party tags, which resulted in a **0.5 sec improvement in page load speed**, enhancing user experience and data governance.
- Developed executive-level dashboards and analytical reports using SQL, Looker, and Python to communicate model performance, key insights, and business impact to stakeholders.
- Built a Proof of Concept (POC) leveraging **generative AI** (CrewAI, Langchain) with Streamlit for **Agentic workflows and Retrieval Augmented Generation (RAG)** architectures.

Sr. Data Science Product Engineer, ArcGIS API for Python

Esri Inc., Redlands, CA   Apr 2020 – Jun 2022

*Drove the development and enhancement of spatial data science and machine learning capabilities within the ArcGIS Python API, impacting **0.5M users/yr***

- **Architected core spatial machine learning modules** for the ArcGIS Python API, defining the object-oriented structures and data interfaces used by 500k+ external developers.
- **Authored technical integration specifications** and reference architectures, enabling external partners to correctly implement complex spatial analysis workflows.
- Translated user feedback and analytical requirements into **actionable development plans** for spatial processing tools, ML model integrations, and content management capabilities.
- Mentored **30+ M.S. students** in applying ArcGIS Python API's core spatial and ML capabilities to real-world data science projects, guiding prototype development and analytical approaches.

Business Analyst, eCommerce

Esri Inc., Redlands, CA   Jul 2017 – Apr 2020

Collaborated on implementing a global ecommerce solution to improve customer journey, and ensure compliance, replacing legacy system

- Implemented data match and validation logic between policy and billing systems to prevent leakage and ensure audit-readiness for regulatory bodies.
- Led the implementation of Adobe Analytics to ecommerce store enabling data-driven insights into customer behavior.

Sr. Business Analyst, Product Implementation

Esurance Inc., Rocklin, CA   Apr 2013 – Jul 2017

Designed the logical data model for an automated Insurance Quoting System, ensuring strict adherence to state-level regulatory mandate

- Analyzed business requirements and defined detailed rules for insurance quoting/policy management systems, focusing on data integrity for analytical purposes.

Business Analyst, Global Emissions Regulatory Compliance

Caterpillar Inc., Redlands, CA   May 2011 – Apr 2013

- *Led a Six Sigma data quality improvement effort for engine emissions data accuracy on Caterpillar's website.*

Operations Business Analyst, eCommerce

Buy Stones Online, Kissimmee, FL   May 2010 – Apr 2011

- *Analyzed customer needs to identify improvements and develop business requirements*

EDUCATION

M.S., Analytics, Georgia Institute of Technology, GA	Jan 2018 - Dec 2019
M.S., Engineering Management, The University of Texas at Arlington, TX	Aug 2008 - May 2010
B.S., Mechanical Engineering, U.P. Technical University, India	Sep 2002 - May 2007

TECHNICAL PUBLICATIONS & THOUGHT LEADERSHIP

Article Title & Topic	Technical Competency Demonstrated
Beyond the Prompt: An Architect's Guide to Production-Ready AI Agents *(Published on Medium)*	**System Architecture & Design:** Defines the "Planner-Executor" architectural pattern for **Agentic Workflows**, demonstrating deep theoretical knowledge of autonomous systems and multi-agent orchestration
A Step-by-Step Guide to Building an Agentic RAG Agent with LangGraph *(Published on Medium)*	**Advanced Python & RAG:** Technical deep-dive on building **Retrieval-Augmented Generation (RAG)** pipelines using **LangGraph**, validating hands-on expertise in the exact stack required by the new role.
My Hackathon Project's Near-Death Experience with AI Agents *(Published on Medium)*	**Data Strategy & Implementation:** A case study on integrating **Google Document AI** with categorization agents, proving the ability to architect **data transformation pipelines** that convert unstructured docs into structured data.

CERTIFICATIONS

Deep Learning Specialization, deeplearning.ai	May 2020 - Aug 2020
Data Analytics / Big Data Certificate, The University of Texas at Austin	Jul 2016 - May 2017
SAS Certified Professional, SAS	May 2015 - Oct 2015

SKILLS

Programming & Databases:	Python (Pandas, NumPy, Scikit-learn, TensorFlow, PyTorch, CrewAI, Langchain, Langgraph), SQL, Google BigQuery, ArcGIS
Machine Learning:	Regression, Classification, Clustering, Time Series Analysis, Natural Language Processing (NLP), Recommendation Systems, Deep Learning, MLOps, Generative AI (Agentic Workflows, RAG)
Data Science and Cloud:	Jupyter Notebooks, Streamlit, DBT, Google Cloud Platform (GCP), ArcGIS API for Python, Statistical Analysis, A/B Testing, Data Visualization (Tableau, Looker, Matplotlib, Seaborn)
Tools:	API Schema Design (OpenAPI), ETL Pipelines using Airflow