

## ARPIT AGARWAL

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<https://github.com/arpitagarwaldev> | <https://arpit-agarwal-portfolio.vercel.app>

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### SUMMARY OF QUALIFICATIONS

AI Engineer & Data Scientist with 6+ years of experience in MCP, LLMs, LangChain, LangGraph, RAG, agentic AI, fine-tuning and LangSmith. Specialized in building AI agents, autonomous workflows, and enterprise-grade ML pipelines. Experienced in DBs, Kafka, Apigee, AWS, and Kubernetes, delivering scalable, real-time AI solutions that cut costs, accelerate deployments, and drive measurable impact.

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### TECHNICAL SKILLS

**AI/ML:** LLM, Deep Learning, NLP, RAG, Agentic AI, Fine-Tuning, MCP, Reinforcement Learning

**Frameworks:** PyTorch, TensorFlow, Scikit-learn, Keras, LangChain, LangGraph, LangServer

**Cloud & Data:** AWS (SageMaker, Lambda, Step Functions, Glue, EC2), Kafka, Spark, Snowflake

**Databases & Vector Stores:** PostgreSQL, MongoDB, DynamoDB, Qdrant, Milvus, Faiss

**DevOps & Deployment:** Docker, Kubernetes (EKS/OpenShift), CI/CD, REST APIs, Microservices

**Other:** Algorithms, Distributed Systems, System Design

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### PROFESSIONAL EXPERIENCE

**EchoStar Corporation, Denver, CO, July 2025 – Present**

**Senior AI Engineer**

**Booster AI Agent (LLM | MCP | Agentic AI | LangGraph | LangSmith | Python | Pods)**

- Built “**Booster**” **Supervised agentic AI assistant** using MCP and LangGraph, federating 13 databases and reducing MTTR & truck rolls by **50%**,
- Developed a predictive dispatch & route-optimization system that scored at-risk locations, optimized engineer routing, and enabled real-time rerouting — **\$1M+ annual OPEX savings**.
- Scaled microservices (Docker + OpenShift + CI/CD) → achieved **3× throughput** and reduced **p95 latency**.

**Customer Experience Chatbot (Mistral | Fine tuning | LangServer | Bedrock | Python| Docker)**

- **Deployed CXO-facing chatbot** using fine-tuned (Quantized) Mistral Llm with persistent memory and human-in-loop reinforcement, reducing **order fallout resolution time from 60 minutes to 2 minutes** while improving user satisfaction and accuracy.
- Saved **5M tokens/day** and reduced operational costs by building an **intelligent scheduling pipeline** that optimized data ingestion and retrieval.

**Boost, Riverfront, CO, February 2023 – July 2025**

**Data Scientist II**

**Site Deployment (Lambda | State Machine | DynamoDB | BPI | Datalake | Deep Learning)**

- Automated **5G site deployment validation** with embedding + transformer models for **anomaly detection** and rule-based validation → eliminated manual effort, saving **40,000+ hours**.
- Led **1.5M customer network migration** (Lambda, Step Functions, Kafka, Apigee APIs) → delivered **\$100k savings** with near-zero downtime.

**Incident Management (WatsonX | React | APIs | Milvus | CI\CD | Bedrock | Sagemaker)**

- Developed **incident management system** (WatsonX + RAG) mapping child/parent tickets; achieved **80% accuracy** and reduced duplicate work.
- Leveraged **GenAI and ML clustering** to group orphan incident tickets with similar features and automatically assign/create parent tickets, saving **1,400 hours of manual work weekly**.

**Supply Chain API Insights (Spark | AWS | Glue | Redshift | NLP)**

- **Scaled supply chain ETL pipelines** (Spark + AWS Glue) to handle **10k+ requests/min**, enabling **real-time analytics and faster decision-making** by automating ingestion, transformation, and aggregation.
- **Automated ServiceNow scheduling workflows** (calendar creation, rescheduling, cancellations), enabling scalable vendor onboarding and saving **\$1.5M annually** in operational costs.

**Dish Wireless, Littleton, CO, September 2021 – February 2023**

**R&D - Data Scientist II**

**Testing as a Service (AWS | Data Platform | Neural Network | Sagemaker | ETL Pipeline)**

- Architected **Testing-as-a-Service (TaaS) platform** validating CNFs via AWS Kinesis → DynamoDB → SageMaker pipeline, cutting resolution time by **10 days** and saving **\$3M/year**.
- Developed neural network models injecting synthetic loads to simulate **1Billion users**, identifying CNF breakpoints for optimized capacity planning.

**Mahindra & Mahindra, India, May 2018 – July 2019**

**Data Analyst (Python | Seaborn | SQL | Predictive Analytics)**

- Built **predictive models** to forecast delivery readiness and detect potential quality issues across **22,500+ tractors** and 30+ inspection points.
- Developed **interactive dashboards** (Python/SQL/Excel/Tableau) to optimize procurement and production planning, supporting **57% YoY sales growth**.

**Tafri, Jaipur, India July 2017 – July 2019**

**CEO & Founder (Leadership | Product Development | Recommendation Systems)**

- Launched **travel itinerary & bucket-list platform** with **100+ active** subscribers, featuring a recommendation engine with intelligent reminders.

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## EDUCATION

**M.S., Business Analytics** – University of Colorado, Boulder | GPA: 3.9 | May 2021

**B.Tech., Mechanical Engineering** – Rajasthan Technical University, India | GPA: 3.8 | Aug 2018

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## PATENTS

[AI-Assisted Adjustment of a 5G Network](#) U.S. Patent Application No. US20250081042A1

[Intelligent Synthetic Data Injection](#) U.S. Patent Application No. US20250081006A1

[Extreme Validation for Fault Detection](#) U.S. Patent Application No. US20250080395A1

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## PUBLICATIONS & Media Mentions

["Testing as a Service: Test Not Only to Validate but to Learn"](#) - *DISH Developer Experience*

Featured in ["Wall Street is Fed Up with Dish Network"](#) - *Light Reading*

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## AWARDS

- **Technical Leadership Award** – Dish Wireless
- GenAI Q2 2025– Echostar
- Agentic AI Gaming - Amazon
- **Hackathon Winner** – Boost Mobile
- **Leadership Award** – Dish Network Finance
- Winning Award Migration - OSS
- Identified & reported critical **SMTP security vulnerability** (email spoofing prevention)