Introduction

Hi, I'm Subhrajyoti Roy—cloud specialist, data engineer, AI builder, and lifelong learner.

I've been fortunate to spend over 9 years building, deploying, and optimizing systems that make data work smarter. But more than the titles or tools, it's been the journey—from operations analyst to architect to AI tinkerer—that's shaped who I am today.

My story isn't the linear rise of a conventional software engineer. It's more of a layered climb—each role adding a new perspective, each project a new skill, each challenge a new opportunity. From tuning latency at Expedia to building predictive models at MSCI, I've always tried to solve the next harder problem.

And somewhere along the way, I realized I could stitch it all together—ops, cloud, ML, architecture—into systems that don't just run, but evolve, learn, and deliver insights in real time. That's what I love doing: building systems that think.

Professional Journey

📍 *Genpact (2014–2015) – Process Associate*

Genpact was where I began understanding large systems and structured operations. It wasn't glamorous, but it was real—real data, real deadlines, real accountability. I worked in a high-throughput environment with strict process standards. I didn't touch Python here—but I learned about process integrity, documentation, and reliability. These are lessons I still apply when designing production pipelines.

📍 *Conduent (2017–2018) – Analyst*

My move to Conduent marked my first real step into analytics. I automated data reporting, dug into SQL, and handled large volumes of transactional data. I started writing little scripts to speed up repetitive tasks, often combining Excel macros with database queries. It was in these moments that I first felt the joy of automation—of solving small inefficiencies with simple, elegant code.

📍 *Profisor Services (2018–2019) – Data Engineer*

Profisor was a game changer. I got to wear the engineer's hat full time. I wrote ETL pipelines, cleaned messy datasets, optimized data storage, and deployed basic ML

models. Python became my daily driver. It was here that I first experimented with scikit-learn and built dashboards using Plotly. This was also when I began to view data not just as numbers—but as a language with patterns, noise, and meaning.

📍 *Expedia (2019–2020) – Operations & Traffic Analyst*

At Expedia, scale was the name of the game. Data flowed in from all corners of the world. I worked with traffic data, real-time log streams, and performance analytics. I had to think fast and act faster. This job taught me how seconds of latency can affect millions. It gave me a deep appreciation for monitoring, observability, and speed. I also started becoming obsessed with system design: how do you make something that works... and keeps working?

📍 *EverExpanse (2020) – Cloud Architect*

This was my first leadership role in tech. At EverExpanse, I wasn't just writing scripts—I was designing cloud systems end-to-end. I migrated workloads to GCP, designed secure VPCs, set up automation using CI/CD pipelines, and led infrastructure audits. I learned how to balance cost, performance, and security. This was my crash course in infrastructure as code and cloud-native architecture. It's also where I built the confidence to take risks, experiment, and think big.

📍 *MSCI (2020–Present) – Associate → Senior Associate*

At MSCI, I leveled up once again. I focused on high-impact, high-stakes systems—particularly in financial forecasting and AI integration. Here, I led the development of a real-time options pricing system, which became the culmination of everything I'd learned so far.

I didn't just build a model. I built a system:

- A data pipeline that fetches market data every 10 seconds

- Over 40 engineered features: volatility metrics, OI ratios, time-to-expiry indicators

- Ensemble modeling: XGBoost, LightGBM, and LSTM with quantile regression

- A Dash-based web interface for real-time monitoring and paper trading

- A cloud-native setup using GCP Compute Engine, BigQuery, and SQL Server

This project wasn't just technical—it was tactical, experimental, and strategic. I had to think like an architect, an analyst, and a trader. And it worked.

Skills & Tools

- **Languages: Python, SQL**

- **Libraries: scikit-learn, TensorFlow, XGBoost, LightGBM**

- **Cloud: GCP (BigQuery, VMs, Cloud Functions), AWS (Glue, Redshift, Lambda), Azure**

- **ML Techniques: Time Series Forecasting, Ensemble Learning, Quantile Regression, Walk-forward Validation**

- **Dev Tools: Git, VS Code, Remote SSH, Shell scripting**

- **Visualization: Dash, Plotly, Streamlit**

- **Databases: SQL Server, PostgreSQL, BigQuery**

What ties it all together? I've built a full-stack skillset—from data ingestion to model deployment to app integration.

Signature Project – Options Price Prediction & Trading Automation

This project showcases my ability to think end-to-end and deliver AI systems that work in real-time. It started with a simple question: *Can I predict short-term price changes for Indian options?*

I:

- **Ingested live option chain data**

- **Built a 40+ feature set incorporating market structure, volatility, OI flow, and expiry cycles**

- **Trained three types of models (XGBoost, LightGBM, and LSTM) using a walk-forward strategy**

- **Added quantile outputs to estimate probabilistic price bands**

- **Wrapped it all in a Dash app for live prediction, charting, and paper trading**

- **Deployed it on GCP with a locally hosted SQL Server for persistent caching**

It's clean, modular, and scalable—and I continue refining it to support real-time agentic decision logic.

Education

- **B.Tech in Mechanical Engineering, NSHM Knowledge Campus (WBUT), 2010–2014**
  – CGPA: 7.5/10

- **Class 12th, Kendriya Vidyalaya (NTPC Farakka), 2010**
  – Percentage: 77%

- **Class 10th, Kendriya Vidyalaya (NTPC Farakka), 2008**
  – Percentage: 87%

While my formal education was in mechanical engineering, my passion for technology quickly redirected me toward data, cloud, and automation. The analytical thinking I gained from engineering continues to influence how I build, model, and debug systems today.

Certifications

- 🏅 **Data Scientist Level 1 using Python – 2015**

- 🥚 **AWS Serverless Analytics: Glue, Athena, Redshift – 2016**

- 🧠 **Machine Deep Learning using Python – 2017**

These certifications helped lay the foundation for my self-guided learning journey in machine learning and cloud. They've kept me disciplined, relevant, and confident enough to learn faster than most trends can change.

Personal Interests

When I'm not building AI pipelines, I'm diving into music—especially rock from the 60s to 80s. Think Led Zeppelin, The Beatles, The Rolling Stones, Pink Floyd. While I can't play any instrument, I get lost in the storytelling, the solos, the soul of that era. I treat albums like books—listening to them start to finish, headphones on, eyes closed.

Cooking is another love. On weekends, you'll find me simmering a curry, testing spice combinations, or trying something inspired by a travel documentary. There's something deeply satisfying about creating a dish from scratch—it's like debugging, but you can eat the result.

And then there are books—my quiet escape. I read everything from tech and productivity to science fiction and International Relations.

Vision & What's Next

I believe in building systems that don't just execute—but evolve.

That's why I'm drawn to agentic AI—systems that adapt, learn, and automate their own workflows. The dream? A trading bot that refines its own logic. A pipeline that adjusts itself based on feedback. A model that monitors its own decay and retrains on schedule.

I want to keep building. I want to push past hype and make systems that are elegant, adaptive, and intelligent from the ground up. My past roles—spanning ops, analytics, engineering, architecture, and AI—give me a unique edge. I can see the full picture, and I know how to put the pieces together.

I don't build one-off scripts. I build smart, scalable systems.

And if that sounds like your kind of work, we'll probably get along.