

# Debabrata Pati

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<https://DebYogi.github.io>

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## Senior Data Scientist

Senior AI/ML professional with patented innovations commercialized into enterprise platforms. Guides teams from research to operational AI/ML products, driving outcomes including a 14% sales uplift within 6 months via AI personalization, ~30% AML false positive reduction within two quarters, and 75% SAR time cut in 2019.

Patents & Publications —

US20230050193A1, US20210334822A1, US12469007B2, EP4433971A4, US20220108133A1, WO2025159896A1, [HK40113399A](#)

## WORK EXPERIENCE

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**Aktana US • Den Haag, Netherlands • 08/2020 - 11/2025**

**Lead Data Scientist • Contractor**

Led the R&D and execution of strategic marketing initiatives to drive brand growth and customer engagement in the product suite.

- Achieved a 14% sales uplift in 9 months by deploying omnichannel propensity models, Counterfactual Analytics, Journey Segmentation, Deep Reinforcement Learning, and dynamic optimization to accelerate decision-making in 2023–2024.
- Architected a scalable model factory framework and deployed AI/ML models to save 50% deployment time while standardizing data pipelines (2021–2022).
- Personalized HCP communications with LLM-driven content semantic augmentation, enhancing marketing effectiveness, campaign ROI, and operational insights in 2025.
- Streamlined data visualization processes, enabling cross-functional teams to derive actionable insights from complex datasets, resulting in improved project outcomes.

**NICE Actimize • Pune, India • 02/2017 - 08/2020**

**Senior Specialist Data Scientist • Full-time**

Led the R&D and deployment of strategic AI-driven analytics solutions to enhance financial crime detection in AML suspicious Activity monitoring for the Actimize product suite.

- Improved AML suspicious activity detection accuracy and reduced false positives by ~30% via predictive modeling and optimization for the SAM rule universe, enhancing core product performance.
- Automated SAR report generation, cutting investigation time by 75% within 6 months through the deployment of an NLP-based framework.
- Led R&D for product-ready analytics solutions, including graph-based transaction networks; delivered executive-level insights for compliance and risk monitoring to guide strategic decisions.
- Led the design and execution of A/B testing experiments, enhancing model performance and driving data-driven decisions within 3 months by optimizing workflows.

## SKILLS

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**AI / ML:** A/B Testing, Anomaly Detection, Counterfactual Analysis, Deep Learning, Experimentation, Feature Engineering, Fine Tuning, Graph Analytics, MLOPS, NLP & LLMs, Optimization, Predictive Modelling, Prototyping, Reinforcement Learning, Statistical Analysis, Supervised & Unsupervised Learning, Transfer Learning, XAI

**Technical & Tools:** Athena, AWS, Container, Data Analytics, Data Pipeline, Data Visualization, Delta Lake, Docker, Git / Bitbucket, KNIME, MLflow, MLOps, Python, Snowflake, Spark, SQL, Tableau

**Leadership &**

**Collaboration:**

Agile Delivery, Cross-functional Collaboration, Project & Team Leadership, Stakeholder Management

## **Cognizant Technology Solutions • Pune, India • 01/2007 - 02/2017**

### **Senior Associate – Data Science • Full-time**

- Designed and deployed an ML-driven payment outlier detection model across 5 countries to replace outdated rule-based systems, boosting fraud detection accuracy and operational efficiency in 2016.
- Architected pricing models using clustering and built a graph-based detection model to guide Cognizant's data center and cloud migration in 2016.
- Conducted consulting analysis to optimize vendor management, achieving a 15% reduction in freight costs through advanced freight optimization models in 2016.

### **Senior Associate – BFS • Full-time**

- Led support for mission-critical risk platforms at NBIM & J.P. Morgan, ensuring NAV, Risk data integrity, while automating processes to improve operational efficiency.
- Spearheaded the data center migration for 300+ applications and automation of risk solutions, improving client risk oversight and reducing operational costs.

## **AWARDS & SCHOLARSHIPS**

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### **Patent of the Year , Hackathon Project Award**

NICE Actimize

### **Employee of the Year – BFS CE, Guiding STAR Award, Best Hackathon**

Cognizant

### **Best Internship Project Award**

Indian School of Business

**Domain Expertise:** AML & Financial Crime, Financial Transactions, Investment Banking & Risk, Omni-channel Marketing, Pharma Brand Analytics

## **EDUCATION**

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### **Master of Technology (M.Tech) in Software Systems – Data Science**

Birla Institute of Technology and Science (BITS)

Pilani, India

06/2017 - 05/2019

Thesis: Explanation and Interpretation of Machine Learning Models in Financial Crime Detection

### **Post Graduate Diploma in Business Analytics**

Indian School of Business  
India

02/2015 - 03/2016

Internship: Freight Optimization using Analytics (Deloitte)

### **Bachelor of Technology (B.Tech) in Electrical & Electronic Engineering**

Biju Patnaik University of Technology

India

08/2002 - 05/2006