

Premangshu Mitra

Principal Data Scientist

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- An accomplished and forward-thinking Principal Solutions Architect offering an 18-year trajectory of success in Design Thinking, Strategic Project Management, and Innovation Projects in the areas of AI/Data Science.
- Highly adept in CX and Data Analytics across sectors including Marketing, Manufacturing, BFS & Insurance areas, identifying customer pain points and solutions. Worked in HR and People Analytics projects.
- Demonstrable competence in Statistical Data Analysis, Machine Learning (ML) algorithms, Natural Language Processing (NLP), and Computer Vision.
- Proven leadership in crafting data-intensive solution architectures and guiding data engineering, ML engineering teams, deploying AI/ML models, in On-Premises, AWS and Azure cloud, and architecting Mlops for end-to-end workflow deployment.
- Core programming experience in Python, R, SAS based application development.

Certifications

- AWS Certified Cloud Practitioner CLF-C01, AWS Architect Certified Associate
- Deep Learning certified by DeepLearning.AI
- Base SAS certified A00-211
- ITIL Foundation 4 certified
- Azure AZ-900, AWS DP-100 Certified
- AWS Machine Learning Specialty, Snowflake and Databricks

Skills

Algorithm Development: Proficient in formulating and implementing machine learning algorithms for diverse applications.

Programming Languages: Highly skilled in Python, R, SAS, SQL, and Git, with practical experience in test-driven development.

Data Visualization: Proficient in leveraging PowerBI for effective data visualization and insights presentation.

Cloud Platforms: Extensive experience in deploying ML models to AWS and Azure.

Solution Architecture: Expert in designing data-intensive solution architectures for comprehensive data workflows. Adept at building automated CI/CD pipelines for optimized development and deployment processes.

Statistical Data Analysis: Highly capable of performing statistical analysis on large datasets.

NLP and Computer Vision: Specialized in NLP techniques and computer vision applications using Large Language Modeling, pretrained models, and Vision Transformer models.

Communication: Exceptional presentation and communication skills, proficient at elucidating complex concepts to non-technical stakeholders.

Leadership: Robust leadership skills with a track record in team management and project coordination.

Academics

2007-01 - 2009-07	Post Graduate Diploma in Business Administration: Finance <i>Symbiosis - Pune</i>
2000-01 - 2003-01	Bachelor of Science: Computer Science, Statistics and Mathematics <i>Bangalore University, Acharya Institute of Management Sciences - Bangalore</i>

Projects

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- a) Applied Materials SPD Metrology - Wafer defect detection using YOLO/SSD**
 - Architected and led a 7-member team to develop an end-to-end solution using state-of-the-art YOLOV8 and SSD for wafer defect detection.
 - Developed anomaly detection logic for identifying production anomalies.
 - b) Step Cycle Time Prediction for Applied Materials**
 - Worked on refactoring Python Code and leveraged LGBM classification model for predicting step cycle times in semiconductor manufacturing processes.
 - Incorporated Test-Driven Development using Python for comprehensive CI/CD onto Jenkins Jabba.
 - c) Content based Recommender System for Football Association (Thefa) & Ebay USA**
 - Architected & developed content and collaborative filtering-based recommender systems.
 - Developed a predictive analytics product for sales forecasting and inventory optimization.
 - e) Market Basket Analysis, Customer Journey Mapping and attribution Analytics, RFM Modeling, MM models for Stater Bros**

- Enhanced marketing strategies by assessing the impact of various marketing channels on sales. Achieved a 78% improvement in marketing ROI through strategic budget reallocation.

f) Consumer Buying patterns and Sentiment Analysis of a CPG company

- Developed ML models for predicting consumer buying patterns using MBA and RFM models.
- Implemented NLP techniques using pretrained deep learning models for analyzing consumer reviews and feedback.

Work History

2022-12 - Current

Principal Data Scientist – Generative AI Projects, Hyper Personalization, AI Solutions Lab

Nihilent Technologies, Pune, Bangalore

- Spearheaded a variety of R&D initiatives aimed at optimizing AI, ML, NLP, GPT, and computer vision models, resulting in enhanced problem-solving capabilities and the creation of pioneering algorithms.
- As a strategic leader, guided a team of data scientists, fostering a collaborative environment that ensured the successful completion of project milestones within predetermined timelines.
- Expertly harnessed statistical modeling techniques to dissect massive datasets, uncover patterns, and generate actionable insights, driving data-driven decision making.
- Designed and deployed sophisticated predictive models and algorithms that significantly boosted the efficacy of data science, AI, NLP, and computer vision systems.
- Fostered cross-functional collaboration with fellow data scientists, software engineers, and product managers to conceive and execute innovative solutions for complex challenges.
- Actively engaged with clients and stakeholders, translating their requirements into robust solutions, and fostering strong relationships based on mutual trust and satisfaction.
- Cultivated a culture of innovation by staying abreast of the latest advancements in NLP, GPT, and computer vision, leveraging new tools and techniques to continuously improve model and algorithm performance.

2016-11 - 2022-12

Lead Data Scientist / Senior Architect – Manufacturing & SCM

Cognizant Technology Solutions, Bangalore

- Developed architecture & application code for data engineering, machine learning predictive modeling, and analytics using Python and R.

- Demonstrated expertise in understanding the client's data landscape and facilitating effective communication between key stakeholders to identify machine learning opportunities.
- Created comprehensive solution architecture documents and collaborated with key stakeholders to review and refine them.
- Developed action plans to mitigate risks in decision-making processes, ensuring increased business opportunities by leveraging data science and ML into data products.
- Utilized Python, Azure Machine Learning Studio, and Azure cloud services to analyze data, identify data anomalies, and provide clients with prescriptive measures and opportunities for improvement.
- Built classification models using various ML/DL frameworks to achieve business objectives, employing best practices of continuous integration and deployment.
- Implemented Mlops practices to automate the end-to-end machine learning workflow, from data ingestion to deployment, ensuring efficiency and scalability.
- Developed algorithms leveraging NLP and deep learning techniques for object detection and segmentation tasks.
- Provided training and mentoring to the business unit group on deep learning principles and applications.
- Led the adoption of Mlops practices, reducing the time-to-deployment for machine learning models by 50% and enhancing overall operational efficiency.

2015-12 - 2016-10

Lead Consultant – Marketing Analytics

Infosys , Bangalore

- Defined and developed a comprehensive program for metrics creation, data collection, modeling, and reporting to effectively measure and optimize operational performance of client projects.
- Collaborated cross-functionally with teams to define problem statements, collect relevant data, build analytical models, and provide strategic recommendations.
- Led the development and implementation of a data aggregation and automated machine learning program, supporting the optimization of manufacturing processes for Philips inject molded products.
- Actively participated in strategic initiatives focused on incubating and developing innovative AI and data science solutions and accelerators for the organization.
- Worked closely with a team of analysts, data scientists, and strategy managers to drive tactical initiatives and deliver impactful results.
- Proactively engaged in client interactions to deeply understand their business challenges and requirements, providing machine learning solutions

tailored to their specific needs.

- Regularly communicated development status and plans to senior leadership, ensuring transparency and alignment across the organization.
- Provided strong leadership and mentorship to other members of the team, fostering their growth and professional development.

2015-03 - 2015-11

Deputy Manager – BFSI Analytics

WNS , Bangalore

- Furnish leadership team and client with insights, analytics, reports and recommendations across insurance products of Top Insurance company in Australia
- Developed statistical algorithms based on deep-dive statistical analysis and predictive data modeling that were used to deepen relationships, strengthen longevity and personalize interactions with client
- Analyzed and processed complex data sets using advanced querying on Teradata, visualization and analytics tools using R and SAS
- Identified, measured and recommended improvement strategies for KPIs across all business areas
- Achieved 85% renewal rate (15% above goal) in 2015

2014-02 - 2015-03

Project Leader – HR, Comp & Benefits Analytics

Mercer Consulting, Bangalore

- Support development of Data Science Team - Compensation and Benefits analytics through mentoring and development of junior members of team
- Lead a team of 7 in C&B analytical projects for APAC and TRS Projects with continuous client & stakeholder engagement
- Monitoring team members on deliverables and manage priorities and workload of data scientists.
- Developed predictive analytics models on Talent acquisition, Performance management analytics, Workforce planning applications, C&B analysis.
- Mentoring and coaching team members on SAS and R
- Track all activities against plan and provide summary status to all stakeholders
- Observed progress of each project, examined risks and coordinated contingency plans
- Track and make suggestions for ways to improve upon KPIs (Key Performance Indicators)
- Performed large-scale data analysis and develop effective statistical models for segmentation, classification, optimization, time series, etc.

2011-10 - 2013-10

Assistant Manager – Media Research and Analytics

Genpact Analytics, Bangalore

- Developed predictive models on Advertisement Sales data for top media

client

- Leveraged statistical and estimation techniques using predictive methods of Regression and Non Linear Regression
- Developed churn models and Lifetime value of client customer base
- Decile Analysis and projection of YoY growth, trends and enabling forecasting techniques to predict sales
- Mentored team members on SAS and R related coding issues
- Conducted weekly staff meetings to motivate staff members, address concerns and questions, plan improvements, and evaluate progress of team members towards set goals
- Work with team members to identify key performance metrics and benchmarks related to user behavior, user segmentation, and user retention
- Planned team-building exercises to increase team performance and morale

2006-08 - 2011-10

Senior Analyst – IT MICS Reporting and Analytics

HSBC Electronic Data Processing India Limited, Kolkata

- Managing IT Finance related queries, Capacity Plans for HSBC Data Centers, creation of MI and chargeback reports using Excel, Tableau and reporting on all IT budgets & spends pertaining to the HSBC Bank Plc. in UK
- Monitored and analyzed trends in cost center spending in order to make recommendations and to identify areas for possible savings in asset optimization
- Additionally involved in coordinating with the Company Management & Vendor for the development of software applications
- Developing and sharing analytical trends & insights generated from IT Finance data with the stakeholders
- Used SAS JMP to generate statistical summaries of data , perform regression analysis and time series reports for the client on demand prediction

2004-08 - 2006-08

IT Infrastructure Engineer

Wipro Technologies, Kolkata

- Support development of a Management reporting framework on call center data and Avaya reports
- Sharing Analytics and trends on call center quality metrics, Statistical Analysis and automation of such reports
- Developed proposals for clients outlining project scope and timeline.
- Evaluated existing procedures and made proactive adjustments to meet changing demands
- Collected information and created presentations and excel reports
- Worked closely with client and other stakeholders to determine planning, implementation and integration of IT projects

Languages

English



Advanced

Interests

Blogging on AI, Programming Photography

Visa

Valid US (H1B), UK and AU