Abhishek Datta

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Professional Summary

I am a seasoned data-science / artificial intelligence professional with 20+ years of global experience in research & multi-industry AI, Machine Learning and Data-science areas, leveraged towards conceptualizing and deploying business-domain specific solutions in-house and for external customers: ranging from cutting-edge research labs to leading MNC clients across more than eight industry verticals. (Banking, Insurance, FMCG/Retail, Telecom, Oil & Gas, Mining, Manufacturing, Health and Life Sciences domains).

I have also successfully acquired multiple clients through consulting and pre-sales functional roles. I am cross-culturally educated in quantitative disciplines from premier institutes of international repute and also have delivered numerous presentations and technical papers to business leaders and academia. Academically, I hold double post-graduate degrees in Mathematics and Applied Math & Statistics from Indian Institute of Technology, Kharagpur (INDIA) and the State University of New York, Stony Brook (USA), respectively. I am also noted for my ability for rapidly analyzing and resolving problem situations. I have strong communication / story-telling and influencing skills as well as team/stake-holder management expertise.

Scholastics

2002 - M.S (Applied Math. & Stats) - State Univ. of New York	**GPA: 3.8/4**	**Stony Brook, N.Y, (USA)**
2000 - M.Sc (Math) - Indian Institute of Technology (I.I.T)	**CGPA: 7.9/10**	**Kharagpur (INDIA)**
1998 - B.Sc (Hons) (Math) - Indian Institute of Technology (I.I.T)	**CGPA: 7.8/10**	**Kharagpur (INDIA)**

Technical Expertise

Working proficiency with **SAS, SPSS, SQL, R, Python, MATLAB, C, PyTorch** and **NLP/Text, Deep Learning, Language Models, Gen-AI, TensorFlow, Keras, SAS Enterprise Miner, RapidMiner, Octave, Orange, SPSS Clementine, Azure ML Studio, AWS Sage Maker, IBM Watson, Tableau, PowerBI, Hadoop, Pig, Spark & Hive.**

Technical Publication (Machine-Learning)

'Computing Eigenvalues: Lanczos Algorithm with a new recursive partitioning method', published in the INTL JOURNAL OF COMPUTERS AND MATHEMATICS WITH APPLICATIONS (Sept 1999, Vol. 38, pp 99-107).

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➢ Freelance AI/ML Consultant, Kolkata (IND)   Jan'2021 – Present

Role – Freelance AI Researcher and Developer

Hands-on experience in client acquisition, AI project delivery and support for several Fortune 500 companies and MSME sectors.

Projects

- Built an **automated speech recognition (ASR)** tool for MNC client using **deep learning**, deployed using **Kubernetes** architecture.
- Built an **optical character recognition** tool using **computer vision** for a large MNC client, deployed using **Kubernetes** architecture.
- Built a **facial recognition** tool using **deep learning**, deployed using **Kubernetes** architecture.
- Built an **object detection/object tracking tool** using **computer vision** techniques.

➢ EdgeVerve Ltd. [An Infosys Product Co], Bangalore (IND)   Nov'2019 – Jan'2021

Role – Associate Director - Datascience

Leading the Data-science practice comprising of a team of senior data scientists and data engineers, across a full spectrum of data-driven products and being accountable for product conceptualizations, executions, innovations and maintenance.

Projects

- Built an automated **text classification** tool for a fortune 500 retailer, deployed using **Kubernetes** architecture.
- Built a **sentiment analysis** tool on a collection of business news channels for a financial svcs client
- Built a **demand forecasting** engine for a US-based large CPG client, deployed using **Kubernetes** architecture.

➢ Wipro Limited - Analytics & A.I. Consulting, Kolkata (IND)   July'2016 – Dec'2018

Role – Managing Consultant / Sr. Data Scientist

Conceptualizing innovative analytical applications that leverage the convergence of emerging technologies such as Internet of Things, Social Media, Machine Learning, Artificial Intelligence, and Big Data for various client projects (short-term & long-term)

Projects

- Built a data-driven **Pricing Optimization / Recommendation** engine for a leading U.S - based CPG giant.

- Built **Predictive Asset Maintenance** Solutions to enable a data driven / scientific pro-active maintenance strategy, while drastically cutting costs incurred during reactive maintenance, repair or replacement. These were delivered to leading Oil & Gas and Mining (Upstream) companies based out of Australia and a leading Medical Devices Manufacturer in North America.

- Built a **demand forecasting** solution to arrive at actionable supply-chain intelligence for a leading French manufacturing giant.

➤ Insurance Information Bureau of India, Hyderabad (IND)   Feb'2015 – July'2016

Role – Head Analytics: Motor Insurance & Other Lines of Business

Heading research, analysis and reporting of pan-India insurance data (policy & claims) for Motor, Property & Casualty lines of businesses across 20+ general insurers based in India and driving industry-wide business excellence as well as positive social impact through actionable insights from industry-level insurance data.

Projects

- **Motor Third-Party Premium Pricing:** Providing pan-India insurance regulator (IRDAI) with insights on optimal motor third-party premium pricing through historical data and trend analysis.

- **Natural Catastrophe Modelling:** Collaborating with domain partners from RMSI to develop robust nat-cat models to arrive at early-warning systems and risk assessment strategies to ensure insurer /market readiness for natural catastrophes like earthquakes, cyclones, floods, etc.

- **Motor Claim Propensity Modeling:** Develop a motor claim propensity model in association with CIBIL-TransUnion to identify proactively the claim propensity for private cars and commercial taxis. This was aimed at aiding the underwriters for pricing motor vehicle policies appropriately.

➤ WNS Global Services   Bangalore (IND)   Jan'2013 – Sep'2014

Role – Group Manager – Research & Analytics

Offshore Advanced Analytics Delivery Manager, leading multiple data-science delivery teams dedicated to providing insurance industry related marketing and fraud analytics services to leading insurance giants located in the U.K, U.S and Australia.

Projects

- **Policy Attrition/Lapsation Models:** Successfully led the end-to-end delivery of Retention models for Life Insurance Line of Business. The models were built from scratch using various statistical algorithms and were deployed and implemented by the business. These models are generating actionable insights to the retention call center in terms of effectively targeting those customers who are most likely to be

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retained as well as personalizing and customizing appropriate retention interventions as per customer profile.

- **Campaign Response Models:** Built Campaign response models for Life Insurance & General Insurance Line of Businesses for direct mail channels, leading to a significant improvement in campaign responses driving significant marketing cost-savings (~30% reduction in acquisition expenses).
- **Cross-Sell Models:** Built Annuity Cross-Sell models for Life Insurance & General Insurance Line of Businesses. The models were deployed and implemented by the marketing team for Cross-Sell campaigns in August'2013 which led to a monthly marketing cost-savings of GBP 167,000.

➢ **Tata Consultancy Services(TCS)**   **Bangalore(IND)   Sep'2010 - Jan'2013**

Role – Manager – Analytics & Insights

Subject Matter Expert and analytics presales consultant, shaping, leading and deploying analytics projects primarily in the Telecom.

Projects

- Subject matter expert in advanced analytics with the TCS Knowledge Services Presales group, supporting various client engagements and proposals across various industry verticals
- Led various PIBS consulting studies / Due-Diligence for leading customers across Banking, Manufacturing, Life-Sciences & Retail industries.
- Played an analytics SME/Consultant role in developing algorithms for **proactive customer retention management** & strategies for leading Telcos. The various engagements involved predictive analytics / modeling which were primarily delivered and implemented using SQL, SAS / E-Miner.
- Successfully implemented a **Predictive Churn Modelin**g pilot for a biggest U.K based fixed-line & broadband service provider resulting in winning the deal of USD 500,000 for a 6-month contract.
- Effectively managed MNC Clients/Internal customer driven projects related to creating presales assets, analytics demo models & various white-papers and POVs.

➢ **Oracle®– Oracle Retail - Analytics Consulting, Bangalore (IND)   Feb' 2008 – Mar'2009**

Role – Senior Analytical Content Manager

As a Senior Analytical Content Manager, my charter was to implement ORACLE RETAIL CORE and ORACLE RETAIL ANALYTICAL INSIGHTS products in addition to leading day-to-day technical management of the advanced analytics activities in various client engagements.

Projects

- Successfully implemented a **Size Profile Optimization, Assortment Planning, Shelf-space Optimization & Store Planogramming** projects for several leading U.S. fashion retailers.
- Led the deployment of a **Price Markdown Optimization** project for a leading European fashion retailer.
- Effectively managed MNC Clients/Internal customer driven projects related to data-mining, process control, documentation & analytics

➢ **Citigroup® - Citicards - Decision Management, New York (USA)   Jan' 2005 – Apr'2007**

Role – Associate Project Manager

Responsible for managing Small Business Credit Card Direct Mail Acquisitions, developing P&L Models & leading marketing campaign (pre-launch) forecasts, strategic support in campaign design and providing thought-leadership and technical expertise towards building advanced predictive models using SAS & SQL.

Projects

- Effectively led diverse teams towards the development of **Segmentation & Response Rate Targeting Models** for different segmented populations, acquisition channels & several credit card products, using SAS & SAS E-Miner and statistical concepts/algorithms. This was instrumental in achieving a **40% overall reduction in direct mail marketing expenses** for 2007 which exceeded all internal expectations.
- Developed scenarios to gauge business/P&L impact and campaign forecasts, by implementing and/or changing models and/or decision logic by conducting **P&L Scenario/Sensitivity modeling** and other strategic analyses, leveraging market research, statistical and financial models that translated to actionable business knowledge.

➢ **J.P. Morgan Chase® - Risk Management, New York (USA)   Jun' 2001 – Aug'2001**

Role - Risk management associate (Full-time summer internship)

- Instrumental in revamping the champion credit card reissue decision tree model by identifying the key loss drivers towards the shared goal of increasing profitability using SAS, Business Objects and SQL algorithms on PC/UNIX/Mainframe (FDR) platforms.
- Developed **loss forecasts** using historical data, competitive info and data query skills, to perform competitive analysis of chase product lines and market credit data.

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Quantitative Research Experience

➢ **Applied Math & Stats Dept, SUNY Stony Brook, New York (USA)   Aug' 2000 – Dec'2004**

- ○ **Doctoral Research Assistant in Computational Neuroscience – (Collaboration with Cold Spring Harbor Lab & Mount Sinai School of Medicine, NY, USA) – June'2002 – Dec'2004**

  Research Area: Mathematical modeling of a specific class/type of neuron to analyze the effect of its shape (geometry) on its signal transmission/propagation patterns (firing behavior). This was carried out using the NEURON programming language on neuronal images supplied from the above-mentioned research labs.

- ○ **Teaching Assistant - Applied Math & Stats Dept, SUNY Stony Brook, New York (USA) – Aug'2000 – June'2002**

  Teaching Area: Differential Calculus & Linear Algebra course instructor and grader for sophomore and final year students of Stony Brook University from diverse majors.