



# Jayanta Kumar Mondal

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## PROFESSIONAL SYNOPSIS

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An IITgrad with strong mathematics, statistics, Operation Research and computing background with completion of INSOFE training on Advanced Analytics and Big Data technologies along with Wiley certified Data Scientist and Wiley certified machine learning professional, having more than 2 years of experience in this field of data science. Skilled in machine learning, statistics, optimization, data visualization, problem solving and programming. He has overview knowledge about the different domains which he has gained from his course work and Projects.

## WORK EXPERIENCE

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### Cognizant Technology Solutions

2018 - Till date

*Associate Data Scientist*

- 1. Kantar AI Prototype Factory:** Celebrity and Logo Detection, Chaff Detection, Duplicate Identification, Tv Rating Prediction, Earned Media Analytics was our objectives. Used different techniques including API, Matrix Algebra, Image Processing Inbuilt Algorithm, Google OCR, NLP, Time Series, Regression. Finally a **working prototype was built** in Python.
- 2. Pepsico FSHA Automation:** Automation of output fields which has been filled up manually by technician and to reduce the process flow time period from 21 days to as least as possible. Techniques used: regex, NLTK, scikit-learn(Classification models), Anomaly Detection. Tools used: Python. Automated this procedure with **accuracy of 95% which reduces the time** tremendously.
- 3. Interna NLP IFF Automation:** Extraction of Key-value pair from text files which is being converted from different types of chemical related documents of different types and presenting it by developing an UI screen. Techniques used: NLTK, Regex, KNN. Tools: Python, Google OCR. It helps in **reducing manual effort and time by 70%**.

### Cognizant Technology Solutions

2016 - 2017

*Associate Data Scientist*

- 1. Customer Segmentation and Persona Engine:** Used Clustering Techniques(K-means and PAM) to profile customer on the basis of demographics and purchase behavior. Build a generic, adaptive and online 'Segmentation & Persona engine' using Rshiny. Achieved annual incremental revenue of 5.6% for an Indian retail giant (~760,000 customers).
- 2. Root Cause Analysis and Issue Identification:** Used Topic Modelling, Text Mining and Clustering techniques to identify hardware issues raised from customer complaints for an Australian electronics company. **Reduced annual cost of 10%** for an Australian electronics company.
- 3. Bitcoin Price Forecasting:** Used an innovative algorithm(developed using differential calculus and regression models) along with Random Forest and ARIMA to forecast bitcoin price for next seven days along with other features. Showed stupendous result with it when **compared with ARIMA model MAPE value of 0.2% against 0.5%**.
- 4. Trade Area and Sales Cannibalization:** Using gravity model to study the likelihood of a customer visit and cannibalization effect of a new store on the existing store. **Build a robust and efficient 'Area Wise Sales Cannibalization engine'** using Rshiny for an US retail store.
- 5. Strategic Location Planning:** To find most optimal location for opening a new store at a particular location considering the cannibalization effect on the existing stores based on footfall maximization. Optimization techniques(Pareto optimization) and Huff model were used. **Build an automated 'Constrained based map wise location application'** using Rshiny.
- 6. Internal Assignments:-**

- a. Leveraging PostgreSQL in Geo-spatial Analytics:** Extraction of data from postgresQL server and visualization in QGis for prediction of Kaggle dataset of house prices of King country,USA using spatial regression model.
- b. West Nile Virus Prediction in Chicago:** To predict the presence of West Nile virus in the trap using regression model, decision tree and random forest.
- c. Image Segmentation:** Used Random Forest, Decision Tree, Multinomial Logistic Regression, SVM to classify the seven different classes in an image.
- d. Credit scoring Model:** To predict whether he/she will be a defaulter/not in paying credit amount using Logistic regression and Decision tree.

## EDUCATION

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### Indian Institute of Technology Kharagpur

July 2011 - July 2016

*Integrated MSc in Mathematics and Computing*

1. Excelled in Applied Mathematics Courses
2. Completed simulation of Laser Welding process project during summer internship at ZETEM, university of Bremen, Germany. Used Regression model for estimation of temperature parameter.
3. Completed Msc project on simulation of blood flow and oxygen transport in Arterio-venous fistula (AVF). Used Comsol and Matlab software along with regression model and regularization techniques obtaining upto 90% accuracy.
4. Completed multiple projects of different domains including life science, fluid mechanics, solid mechanics and physics using different numerical algorithms like FEM, RK, discretization methods etc for better accuracy and robustness.
5. CGPA: 7.31
6. Group Leader of National service Scheme

### D.A.V Model School(CBSE)

May 2010 - May 2011

*Class 12*

Stream: Science

Percentage: 82.8

### D.A.V Model School(CBSE)

May 2008 - May 2009

*Class 10*

Stream: Science

Percentage: 84

## CERTIFICATIONS

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Wiley Certified Data Scientist

2019

Wiley Certified Applied Machine Learning Professional

2016

## HONORS & AWARDS

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**CMT Breakout Award** to Kantar Media AI Program Cognizant Team, which I was part.

2019

Recipient of **Inspire Scholarship** under Ministry of Science and Technology

2011-2016

**Research Paper Published**-Influence of Starling's hypothesis and Joule heating on peristaltic flow of an electrically conducting Casson fluid in a permeable microvessel

2016

## SKILLS

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Tools	Python(Pandas, Numpy, Scikit-learn, Matplotlib, Seaborn, OpenCv, NLTK, Re, String, google Pytesseract), R, Matlab, My SQL, PostgreSQL, COMSOL, Rshiny, MS Excel, MS PowerPoint, MS Word, Tableau, HTML, C++, C, Solid Works
Techniques	Regression Analysis, Cluster Analysis (Hierarchical Clustering, K-Means Clustering, PAM), Support Vector Machine, Decision Tree, Random Forest, Bagging, Boosting, Gradient Descent, Naïve Bayes Classification, Support Vector Machine, Video and Image Analytics, Neural Network, Association Rules, Text Mining, Natural Language Processing, Time Series, Feature Engineering, Statistical Techniques

## TRAININGS

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INSOFE training on Advanced Analytics and Big Data technologies, Telecom Fraud, Retention Analytics, Life Science, Retail, R Shiny