

# Atanu Dey

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Personal Profile: <https://atanudeyiitkgp.github.io/AtanuDey/>

## Teaching & Research Interest

- **Python Programming Language** (Basics, Pandas, Numpy, Scipy, Scikit Learn, Flask, Selenium)
- **Machine Learning** (Linear Regression, Logistic Regression, SVM, KNN, Decision Tree, Random Forest, Clustering) & **Deep Learning** (Neural Network Concept, Activation Function, Back Propagation, RNN, LSTM)
- **Natural Language Processing (NLP)** (Word2Vec, Sentiment Analysis Techniques, Textual Entailment, Machine Translation)
- **Statistical Models** (T-Test, Z-Test, Hypothesis Testing, Sensitivity Analysis, Six-Sigma Concept, Forecasting)
- **Algorithm** (Sorting, Searching, Graph Traversal, Dynamic Programming, Analysis of Algorithm)
- **Operational Research/Decision Modelling** (LPP, Duality Theory, Transportation Problem, Assignment Problem)

## Education

### Master of Science by Research (MS by Research)

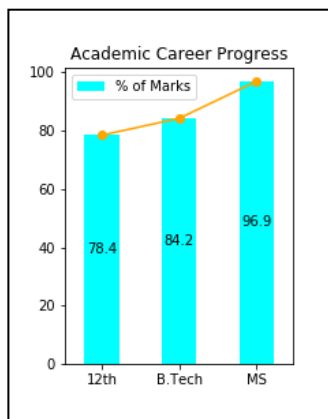
July, 2016 – October, 2018

Indian Institute of Technology, Kharagpur (IIT-Kgp). **CGPA–9.69/10**

Faculty contact: **Prof. Mamata Jenamani & Prof. Jitesh J Thakkar**

Thesis: Sentiment Analysis using n-gram Lexicon and Cross-Domain Features.

Courses taken: Recommender System in E-Business, Decision Modeling, Production Planning and Inventory Control, Natural Language Processing, Machine Learning.



### Bachelor of Technology (B.Tech),

July, 2010 – June, 2014

Govt. College of Engineering & Textile Technology (GCETT), Berhampore, West Bengal University of Technology (WBUT), India. **DGPA–8.42/10**

Specialization: Computer Science & Engineering (CSE).

Thesis: A Proposed Embedded System for the Calculation of Trigonometric and Algebraic Functions

### Higher Secondary (12th Standard),

April, 2009

Jujersa P.N. Manna Institution, Howrah

West Bengal Council of Higher Secondary Education, India. **Marks–74.8%**

Specialization: Science.

## Experiences

### E-Commerce Quality Data Scientist, HP Inc., Bangalore, India

March, 2019 – Present

#### Project 1: QPS (Quality Predictive System)

- An alert system is developed to alert managers/operations-managers on the current spike of dispatches in comparison with history using Six-Sigma SPC (Statistical Process Control) methods.
- Developing an IDP (Intelligent Dispatch Process) by finding accurate issues from the conversation of agent and customer using Deep Neural Net.

**Project 2: *Eagle (Automated quality analysis of consumer review)***

- Proactive product and service quality analysis using "sentiment analysis" on consumer reviews.
- To understand the "what customer wants?" (customers' expectation) which provides meaningful insights to improve the quality of product and service.

**Project 3: *Early warnings Analysis***

- Analysis of product's quality before launching or just in 1st week of launching using NLP and ML (Machine Learning).
- Many sources of consumer reviews are used for this project such as "tech-blogs" data, internal HP beta-testing data, and historical case-log data.

**Junior Data Scientist, Tookitaki Technologies Pvt. Ltd., Bangalore, India**

April, 2018 – February, 2019

**Project: *Reconciliation Management System (Pattern-Based matching solution)***

- Classification using Machine Learning algorithms like Linear Regression, Logistic Regression, SVM, NB.
- Pattern-based solution using data science algorithm such as Subset-Sum and Longest Common Subsequence.

**Junior Research Fellow, E-Business Centre of Excellence Lab, IIT Kharagpur.**

April, 2016 – March 2018

**Faculty contact: Prof. Mamata Jenamani**

- E-Business Centre of Excellence project, sponsored by Ministry of Human Resource Development (MHRD), Govt. of India.
- Working Area: Sentiment Analysis using python.

**Research Associate, BCI – HCI Lab, IIT Kharagpur.**

June, 2015 – March, 2016

- Research on Brain Computer Interface to investigate states of mind and mental workload using EEG devices.
- Working on Virtual Keyboard Standardization of Indian Languages for smart phone.

**Software Engineer, Capgemini India Pvt. Ltd., Hyderabad, India**

September, 2014 – June, 2015

- Insurance domain project "Phoenix", Client "XL - CATLIN". Platform – Guidewire, Java.

## **Publications (For Sentiment Analysis, NLP & ML)**

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### **Journals (Published):**

1. **Atanu Dey**, Mamata Jenamni, Jitesh J Thakkar, "Senti-N-Gram: An n-gram lexicon for sentiment analysis", *Expert Systems with Applications*, 103, pp.92-105, Elsevier, 2018.
2. **Atanu Dey**, Mamata Jenamni, Jitesh J Thakkar, "Cross-D-vectorizers: a set of feature-spaces for cross-domain sentiment analysis from consumer review", *Multimedia Tools and Application*, pp.1-19, Springer, 2019.

### **Conferences (Published):**

1. **Atanu Dey**, Mamata Jenamni, Jitesh J Thakkar, "Lexical TF-IDF: An n-gram Feature Space for Cross-Domain Classification of Sentiment Reviews", *7th international conference on Pattern Recognition and Machine Intelligence (PREMI), IEEE & Springer, December 5<sup>th</sup> – 8<sup>th</sup>, 2017 in ISI Kolkata, India. (Best Paper Award)*
2. **Atanu Dey**, Mamata Jenamni, Jitesh J Thakkar, "Sentiment wEight of N-grams in Datasets (SEND): A Feature-set for Cross-Domain Sentiment Classification", *9th international conference on Advance Pattern Recognition (ICAPR), IEEE & IAPR, December 28<sup>th</sup> – 30<sup>th</sup>, 2017 in ISI Bangalore, India.*

## Some Other Publications

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### **Journals (Published):**

1. Abul Hasnat, **Atanu Dey**, Santanu Halder, Debotosh Bhattacharjee, "Square Root and Inverse Square Root Computation using a Fast FPGA Based Architecture", *Journal of Active and Passive Electronic Devices (JAPED)*, Old City Publishing, 13, 2018.
2. Abul Hasnat, Tanima Bhattacharyya, **Atanu Dey**, Santanu Halder, Debotosh Bhattacharjee, "A Novel Sorting Algorithm using Quotient and Remainder", *Journal of Engineering and Applied Sciences (JEAS)*, 12, Medwell journals, 2017.

### **Conferences (Published):**

1. Abul Hasnat, **Atanu Dey**, Md. Azizul Hoque, Santanu Halder, Debotosh Bhattacharjee, "A Novel Unit Circle Approach for Computation of Sine Function", *2nd international conference 2017 Devices for Integrated Circuit (DevIC)*, IEEE, March 23-24, 2017 in Kalyani, West Bengal.
2. Abul Hasnat, Tanima Bhattacharyya, **Atanu Dey**, Santanu Halder, Debotosh Bhattacharjee, "A Fast FPGA Based System for Determining the Square Root and Inverse Square Root Value", *2nd international conference 2017 Devices for Integrated Circuit (DevIC)*, IEEE, March 23-24, 2017 in Kalyani, West Bengal.
3. **Atanu Dey**, Sourav Bhattacharjee, Debasis Samanta, "Recognition of Motor Imagery Left and Right Hand Movement using EEG", *IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology (RTEICT-2016)*, IEEE, May 20-21, 2016 in Bengaluru.
4. **Atanu Dey**, Tanima Bhattacharyya, Abul Hasnat, Santanu Halder, "A Fast FPGA Based Architecture for Determining the Sine and Cosine Value", *5th International Conference on Advances in Communication Network and Computing*, Elsevier, Feb 21-22, 2014 in Chennai, India.

## Academic Achievements

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- Secured 9.69 CGPA in scale of 10.0 in MS (by Research) (**Top 5%** in the School) 2018
- Qualified All India Examination GATE (**Top 5%** total participants 100000+) 2016
- Secured 4<sup>th</sup> rank in Dept. of CSE, GCETT during B.Tech (**Top 6%**, total students 60+) 2014
- Secured 5798<sup>th</sup> rank in West-Bengal Joint Entrance Examination (state level engineering entrance examination), (**Top 4%**, total participants 120000+) 2010
- Secured 5<sup>th</sup> rank from school in higher-secondary examination, (**Top 2%**, total students 250+) 2009

## Award/Scholastic Achievements

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- PReMI – Springer Student Award for Lexical-TFIDF Paper from 7th International Conference on Pattern Recognition and Machine Intelligence (PReMI 2017),  
**Award money – INR 5000** 8th December, 2017
- Received Junior Research Fellow (JRF) award from Ministry of Human Resource Development via IIT Kharagpur. **Received Fund – INR 25000 / Month (for two years)** April, 2016 – March, 2018
- Maintained institute rank within Top 5 over last 3 years at GCETT Berhampore.  
**Received Scholarship for the same – INR 6000 / Semester (for three years)** 2011 – 2014
- Recipient of Chief-Minister-Scholarship from West Bengal Government.  
**Scholarship Amount – INR 15000** 2011 – 2012

## Certifications

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- Oracle Certified Professional Java Programmer (JAVA SE- 6). November, 2014
- Capgemini Fresher Learning Program- Java Technologies September, 2014 – November, 2014  
Core JAVA, Advance JAVA, RDBMS, JDBC, HTML, JavaScript, JSP, Spring, JPA.

## Position of Responsibilities

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- **Teaching Assistant** in a NPTEL (National Programme on Technology Enhanced Learning) Course "E-Business" at IIT Kharagpur. July, 2017 – October, 2017
- **Teaching Assistant** in a Lab-Course ("Information System Lab") at Dept. of Industrial and Systems Engineering, IIT Kharagpur. July, 2017 – December, 2017
- **Teaching Assistant** in a theory course ("Recommender System in E-Business") at Dept. of Industrial and Systems Engineering, IIT Kharagpur. July, 2017 - December, 2017
- **Teaching Assistant** in a workshop on "Web Data Analytics using R and Python" at IIT Kharagpur. September 6<sup>th</sup> -10<sup>th</sup>, 2016
- **Trainer** in "one day Latex workshop" at Dept. of Industrial and systems Engineering, IIT Kharagpur. December 9<sup>th</sup>, 2016

## Technical Skills

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- Languages : C, Java, Python, VHDL, SQL
- Software Packages : Latex , Matlab, Xilinx
- Platforms : Windows and Linux
- Skills : Natural Language Processing, Sentiment Analysis, Machine Learning
- Google Scholar Link : <https://scholar.google.com/citations?hl=en&user=nxTq1GIAAAAJ>
- GitHub Link : <https://github.com/atanudeyitkgp>
- LinkedIn Link : <https://www.linkedin.com/in/atanu-dey-38a168aa/>

## English Proficiency Test

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**IELTS Score:** Overall: 6.5 (Speaking: 6.5; Reading: 6.5; Writing: 6.5; Listening: 6.0) 12th October 2019

## Extracurricular Activities

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**Painting (Oil, Acrylic and water)** : Completed 5th year painting exam (Graduated) from 'Bangiya Sangeet Parishad', India. 2017

**National Service Scheme (NSS)** : Active member in a unit of GCETTB, WB, India 2013 – 2014

**Programming Contests** : Winner in Collectiva Programming Contest. September, 2012

**National Cadet Corps (NCC)** : Successfully completed A-Certificate. December, 2005

## Personal Details

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- Nationality: Indian
- DOB: 5<sup>th</sup> April, 1992
- Gender: Male

Yours sincerely,  
Atanu Dey