

Atanu Dey

HP Inc., 9th Floor, Salarpuria GR Tech Park, Whitefield, Bangalore, India

(+91) 8617488939 | (+91) 8100536846 | atanu.dey.cse@gmail.com

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)
- **Operation Research/Decision Modelling** (LPP, Duality Theory, Transportation Problem, Assignment Problem)

Education

Master of Science by Research (MS by Research)

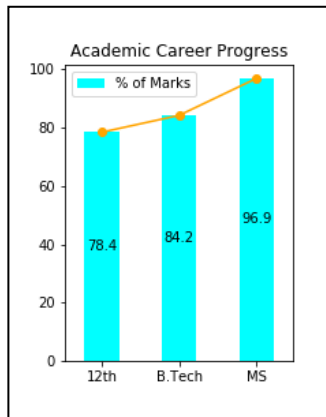
July, 2016 – October, 2018

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.

Major Projects

Automated Quality Analysis & Early Warning Analysis

March, 2019 – Present

- Finding product and service quality from the consumer reviews using NLP techniques, ML algorithms and sentiment analysis approaches.
- To understand the "what customer wants?", finding customers' expectation from their experience review.
- I am leading both the project. I am playing a role of data-scientist cum manager for these projects.

Reconciliation Management System

April, 2018 – February, 2019

- Solving Reconciliation Problem for Banks using NLP and ML.
- Find out different breaks in the time of reconciliation.
- Clients are "OCBC" and "HSBC" bank (I lead the project).

Sentiment Analysis of Consumer Reviews

July, 2016 – Feb, 2017

- Part of E-Business Centre of Excellence Project and also my MS thesis.
- Faculty Contact – Prof. M. Jenamni & Prof. J. J. Thakkar.
- Institute – IIT Kharagpur, India.
- Lexicon and Learning-based approaches are prosed during this period of the research.

Embedded System for the Calculation of Mathematical Functions

September, 2012 – June, 2014

- B.Tech Final Year Project
- Faculty Contact – Dr. Santanu Halder & Dr. Abul Hasnat.
- Institute – Govt. College of Engg and Textile Technology, Berhampore, West Bengal, India.
- Trigonometric and Algebraic functions are considered for this research.

Publications (For Sentiment Analysis, NLP & ML)

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 5th – 8th, 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 28th – 30th, 2017 in ISI Bangalore, India.*

Some Other Publications

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

- 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 4th rank in Dept. of CSE, GCETTB during B.Tech (**Top 6%**, total students 60+) 2014
- Secured 5798th rank in West-Bengal Joint Entrance Examination (state level engineering entrance examination), (**Top 4%**, total participants 120000+) 2010
- Secured 5th rank from school in higher-secondary examination, (**Top 2%**, total students 250+) 2009

Award/Scholastic Achievements

- 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

- 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

- **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 6th -10th, 2016
- **Trainer** in “one day Latex workshop” at Dept. of Industrial and systems Engineering, IIT Kharagpur. December 9th, 2016

Technical Skills

- 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/atanudeyiitkgp>
- LinkedIn Link : <https://www.linkedin.com/in/atanu-dey-38a168aa/>

English Proficiency Test

IELTS Score: Overall: 6.5 (*Speaking: 6.5; Reading: 6.5; Writing: 6.5; Listening: 6.0*)

12th October 2019

Extracurricular Activities

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

- Nationality: Indian
- DOB: 5th April, 1992
- Gender: Male

Declaration

I hereby declare that the furnished above are true to the best of my knowledge and belief.

Place: Bangalore, India

Yours sincerely
Atanu Dey