Abhinandan **Malhotra**

SKILLED ENGINEER WITH A KEEN INTEREST IN MATHEMATICAL MODELING & DATA ANALYSIS

97, Bank Enclave, Laxmi Nagar, Delhi, New Delhi 110092, India

(+91) 9891949473 | abhinandan.malhotra@gmail.com

Professional Summary

Results driven data science professional with mathematical modeling & analytical skills, an advanced degree in engineering and looking for data driven decision making roles. Creative, pragmatic and proactive problem solver. Organized and attentive to detail with demonstrated time management , data analysis & quantitative skills gained from previous work experience. Skilled in machine learning, numerical/quantitative methods, statistics and programming. Dynamic Oral, Writing, Interpersonal and Presentation skills.

Education

IIST(Indian Institute of Space Science and Technology), DoS — *Kerala, India*

M.Tech in Aerospace Engineering — *Aug. 2013 - July. 2015*

- Ranked among the top 5 students in my M.Tech Class. GPA of 8.31
- Master's Project : Emphasis on Quantitative Analysis of large experimental data sets including Time-Frequency Analysis, Statistical Analysis, Uncertainty Analysis, Signal Processing & Design of Data collection and analysis procedure. (For Master's Thesis).
- Mathematical modeling for solving differential/integral equations using Numerical methods like finite difference and finite volume methods for problems in engineering domain.
- Secured 99 percentile in GATE (a national level exam) out of a total of 163000+ students to get admission in M.Tech course.

Guru Gobind Singh Indraprastha University — *Delhi, India*

B.Tech in Mechanical Engineering — *Aug. 2007-June 2011*

- Secured 78.41 % during B.Tech
- Ranked in the top 10% students throughout my B.Tech out of a class of around 80 students.

Experience

Tango IT Solutions Private Ltd, Chennai — *Chennai, India*

Data Scientist — *March. 2018 - Current*

- Fulfilled all data science duties for the firm, serving clients like National Payments Corporation of India (NPCI), Unified Payments Interface (UPI) etc. leveraging AI/ML techniques for an improved end-user experience.
- Created and presented models for data ranging from network logs, system logs, financial data, transaction data etc.
- Created models that monitor, analyze and predict insights and patterns from data as per business requirements using machine learning algorithms, time series techniques and have also worked extensively with anomaly detection & dimensionality reduction techniques.
- Worked on creating Proof of Concept (PoC) models as well as reproducing novel ML/Deep Learning algorithms from research papers to be implemented for the business use cases.
- Working with deep learning in a computer vision project for a client in the area of security and access control.

Indian Institute of Science, Bangalore — *Bengaluru, India*

Research/Project Associate — *July. 2017 - February,2018*

- Worked in the High Speed research lab at Indian Institute of Science on multiple government funded projects from agencies such as DRDO, ISRO, Brahmos for research in the aerospace domain.
- Worked in the area of scientific computing, developing computational mathematics codes for sets of partial differential equations for fluid mechanics and using numerical techniques like finite difference methods, finite volume methods.
- Performing statistical analysis of large experimental data sets, and implemented data driven & mathematical methods like optimization for best design and Machine Learning methods for prediction of performance parameters.
- Preliminary analytical model development for a new type of engine and it's parametric study.
- Developing computational models simulating the experimental systems using commercial/Open source softwares and writing in-house codes.

Indian Institute of Technology, Delhi — *New Delhi, India*

Senior Research Fellow — *Sept. 2015 - 2017*

- Developed mathematical and quantitative models for predicting the performance parameters for improved process.
- Performed Primary and Secondary research for developing the mathematical models and carried out statistical analysis of collected data to predict an empirical model for the involved parameters.
- Statistical Analysis of large scale experimental data sets and their corroboration with model data.
- Development of transient numerical models using commercial packages as well as making in-house computational codes (MATLAB/C++) for solution of a system of conjugate partial differential equations.
- Prepared presentations, abstracts, and reports.

Indian Institute of Space Science and Technology *Kerala, India*

Graduate Teaching Assistant *Aug. 2013 - July. 2015*

- Worked in the Mathematical Modeling Simulation and Analysis lab as a teaching assistant and was involved in the numerical modeling of differential equations and development of associated mathematical models for flight trajectory, shell trajectory & other numerical methods and their grading for undergraduate students.
- Designed course materials, led discussion sessions, maintained correspondence with undergraduate students and organized lectures.

Mahindra & Mahindra Ltd. *Chennai, India*

Assistant Manager (Vehicle Integration Division (New Projects) *Aug. 2011 - Oct. 2012*

- Liaised directly with multiple departments as a Vehicle Integration resource to achieve safe component placement (engine, suspension etc.) for a new design proposal in line with the government regulations, capacity constraints, vehicle class etc.
- Concept Design and Feasibility studies for a new class of vehicle, benchmarking studies & design proposals according to Govt. regulations (CMVR rules) and making layouts in CATIA & CAVA and their presentation to senior management.
- Identification of benchmark vehicles for data Collection and the Qualitative & Quantitative analysis of the collected vehicle data.
- Involved with the analytics team to understand the future trends and customer demands & prepared reports and presentations for the team.

Skills

MATLAB, Python (NumPy, Pandas, scipy, scikit-learn, Matplotlib, Jupyter, Plotly, Seaborn etc.), C/C++, Octave, SAS, Advanced Excel, MS-Office Suite, SQL, Data Analysis, Mathematical modeling, Linear Algebra, Statistics and Probability, numerical methods, time-series analysis, Optimization techniques, Signal processing techniques, Machine Learning Algorithms (Supervised, Unsupervised and dimensionality reduction techniques).

TensorFlow and Keras (for Deep Learning).

Honors & Awards

Awards & Certifications

2013-15	**MHRD GATE Scholarship**, Ministry of Human Resources Development, GoI	*99 Percentile*
2016	**2nd best Poster award at 4th National Symposium on Shock Waves.**,	
2017	**Statistical Analysis, ANOVA, Regression and Logistic Regression**, SAS Academy e-course	*SAS e-learning*
2017	**Introduction to Statistical Concepts**, SAS Academy e-course	*SAS e-learning*
2017	**Python for Data Science**, University of Michigan, MOOC	*Coursera*
2018	**Deep Learning Specialization: Set of 5 deep learning courses**, deeplearning.ai	*Coursera*

Honors

Authored papers in international journals and presented my work in conferences & symposiums to eminent personalities of the engineering domain in areas of signal processing and analysis, and statistical analysis of experimental datasets.