Abhinav Malhotra

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Education

Georgia Institute of Technology 2014 – 2019
Ph.D., (ChemE). Minor in Computational Engineering, GPA: 3.91/4 *Atlanta, GA*

Indian Institute of Technology, Roorkee 2008 – 2013
B.Tech, M.Tech, BR Varshney Medal(Top Senior), GPA: 9.15/10 *India*

Projects

Understanding Indian Premier League with Data Science

- Web scraped world's biggest cricket league website via Beautiful Soup to collect relevant auction data.
- Data cleaning and visualization Pandas, Numpy and Seaborn to quantitatively find most efficient cricket teams. Article available on medium.com

Predicting Material Properties using Machine Learning

- Used KNN, LDA and kernel-expansion algorithms to predict properties of interest for materials in Transparent Semiconductors database.
- Leveraged statistical tools to identify best property predictors to guide future material fabrication.

Computational modeling of nanoscale thermal phenomena

- Created FORTRAN, Python and MATLAB codes to predict thermal energy flow in nanostructures.
- Implemented physics model numerically to develop space-discrete models to evaluate role of morphologies and surfaces in heat conduction.
- Authored 10 peer reviewed articles (8 first-authored) in scientific journals.
- Developed a multi-year research collaboration between research groups on campus.

Stock Trading AI Agent

- Created a stock trading agent in Python trained on time-series data to minimize volatility.
- Implemented multiple algorithms from scratch including Decision Trees (ID3, PERT) and AdaBoost.

Machine Learning for Epilepsy Detection

- Developed a Neural Network based predictor in MATLAB using time-series EEG data for seizure alerts.

Relevant Work Experience

University of Delaware Sep 2019 – Present
Postdoctoral Researcher *Newark, DE*

- Using Active Learning to optimize designs from computationally intensive multi-physics simulations.

Jeevomics Pvt. Ltd. June 2013 – Aug. 2014
Data Scientist *New Delhi, INDIA*

- Created libraries of potential reaction pathways in MATLAB and Python, integrated with in-house machine learning tools to predict cancer drug efficacy.

Other

Proficient in: Python, FORTRAN, SQL, COMSOL, MATLAB, Mathematica, LaTeX

Currently learning: mongoDB, French

Interested in: Soccer: all things Arsenal, ex-India and US federation certified referee | Science communication: explaining complexity with simplicity at https://medium.com/@abhinavmalhotra