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Pawandeep Singh

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Education

Emory University

M.S. In Computer Science (Machine Learning Concentration)

Atlanta, GA
Aug 2013-May 2015

- Completed courses: Data Mining, Machine Learning, Natural Language Processing, Numerical Analysis, Applied Linear Models.

Guru Tegh Bahadur Institute of Technology

Bachelor of Technology in Computer Science

New Delhi, India
Aug 2007-May 2011

- Completed courses: Artificial Intelligence, Object Oriented Programming Concepts, Data Structures, DBMS

Work Experience

Emory University

Research Assistant

Atlanta, GA
June 2014-Nov 2015

- Performed complexity analysis of law personnel data over a period of time, measuring entropy and Flesch score. Measured relative complexity of personnel of different countries and relative increase in rate of complexity.
- Performed data wrangling and, munging to obtain data from different countries government sites. Further performed data cleaning and data audit to ensure quality.
- Designed the experiment and validated it at individual stages for reliability and consistency.
- Used numpy, sklearn, and pandas for implementing the models and visualizations.

Infosys Limited

Systems Engineer

Hyderabad, India
Sep 2011-June 2013

- Worked as part of the offshore team for a major aircraft manufacturer on their Data Delivery Program to deliver relevant data according to individual airline plane configuration. Developed a file splitting module to split transaction files for parallel processing of transactions and hence reducing the transaction time by over 50%.
- Performed unit testing of individual components as new features were added and automated them using *JUnit*.
- Worked mostly on *Java*, *Oracle 9i*, *IBM Websphere MQ/MB*, *XML*, *SQL*, *Junit*, *SVN*.

Academic Projects

CraigCarDeals

Jan 2016 - Feb 2016

- Developed a web app to scrape car listings from the website to find the best deals using a random forest pricing model. If the price is lower than the model prediction, it's a good deal.
- Backend: python, pandas, sklearn, Postgres. Frontend: Javascript, Html,CSS. Cloud: Heroku

Predictive Modeling of Drug Sensitivity

Oct 2014-Dec 2014

- Developed elastic nets and lasso regression models to predict drug sensitivity for different cancer cell lines to customize treatment for individual patients. Models and visualizations were developed in R.
- Used Principal Component Analysis for dimensionality reduction as each individual patient data contained 1639 Mutations, 23316 Copy Number and 18988 Gene Expressions.

Early Alzheimer's Detection

Nov 2013-Dec 2013

- Developed machine learning models using Naive Bayes, SVM and Neural Networks in *Matlab* to classify people based on their performance on a web based test using mouse tracking and clicking data.
- Further optimized the model using convex optimization, feature normalization and optimized bias-variance.

Technical Skills

- Languages:** *Python*, *Java*, *R*, *Matlab*, *C*, *Pig*, *HTML/CSS*, *SQL*, *XML*, *Bash scripting*.
- Libraries & Frameworks:** *pandas*, *numpy*, *sklearn*, *Mallet*, *OpenMPI*, *Bootstrap*, *J2EE*, *grunt.js*
- Tools & Platforms:** *Git*, *MongoDB*, *MySQL*, *Hadoop*, *Heroku*, *Postgres*
- Domain:** Machine Learning, Data Mining, Predictive Analytics, Natural Language Processing.

Github: github.com/singhpawan **LinkedIn:** [linkedin.com/in/mepawandeep](https://www.linkedin.com/in/mepawandeep) **Website:** www.singhpawan.com