Rahul **Yadav**

SOFTWARE ENGINEER · DATA SCIENTIST

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Education

Cluster Innovation Centre (University of Delhi) *Delhi, India*
B.TECH. IN INFORMATION TECHNOLOGY & MATHEMATICAL INNOVATIONS *Sep. 2011 - Jun. 2015*
Minors - Electronics

Skills

Software & Programming	Python, MATLAB®, MySQL, Cloudera, Linux, Microsoft Excel, AWS (GPU), Google Cloud, POV-Ray
Machine Learning	Classification, Regression, Clustering, NLP, Deep Learning (CNN, RNN, Reinforcement Learning)
Relevant Coursework	Calculas & Numerical Methods, Linear Algebra, Probability & Statistics, Logic Systems, Robotics

Experience

GENPACT *Gurugram*
SENIOR ASSOCIATE *Nov. 2016 - Apr. 2017*
- Designed and built machine-learning models and NLP systems using client's proprietary data assets in manufacturing analytics.
- Conducted machine-learning training sessions and contributed to Budding Analytics.
- Automated financial reports which are developing into software offering.

Numetric Technologies *Gurugram*
DATA SCIENTIST *May 2016 - Sep. 2016*
- Implemented a real time web scraper to alert the client if the prices of certain commodities fluctuates more than a threshold.
- Implemented a data mining project to help build an engine to facilitate modeling and analysis of historical data.
- Facilitated the development of a web extension which provides near real time game statistics to help attract more audience.

TNine Infotech *New Delhi*
CO-FOUNDER *Jul. 2015 - Dec. 2015*
- Overhauled business strategy, managed clients & assisted in web development.

Impact Ventures *New Delhi*
SOFTWARE DEVELOPER INTERN *Feb. 2015 - May 2015*
- Worked on the development of back-end system software for an app to pave way for skill development in customer service industry.

Bhabha Atomic Research Centre (BARC) *Vizag*
RESEARCH INTERN *Jun. 2013 - Aug. 2013*
- Worked on an IEMA in the Computational Analysis Division at BARC. IEMA accelerates objects with predetermined velocity towards specific targets. Projects to aid investigations and gain basic insight of tools and techniques used to operate an EM system were performed.

Projects

Deep Q-network for Catch *Gurugram*
SELF *May 1 - Present*
- Using an existing code to build a Deep Q-network that can play Catch using Pygame and Keras. The video can be found **here**. This utilizes a model-free reinforcement learning technique called Q-learning; which can be used to find an optimal action for any given state in a finite markov decision process.

Predicting category using NLP *Gurugram*
GENPACT *Feb. 2017 - Mar. 2017*
- Data coming from source has a category assigned by clients which was assigned incorrectly about 40% of the time. Used regex, stemming and TF-IDF along with ANN and Logistic Regression to predict the correct category using text features from source. Achieved >80% accuracy on a 4-class classification.

Calcuating Inshop-hours using Machine Learning *Gurugram*
GENPACT *Jan. 2017 - Feb. 2017*
- Applied multilinear regression techniques to calculate the number of Inshop-hours for resources to facilitate the supply chain business.

Grid Computing and Performance Analysis

New Delhi

University of Delhi

Aug. 2014 - Jan. 2015

- Designed and implemented a grid of computers connected on a network to match the computational power required to do scientific studies
- Measured computational performance of the grid via creating a python server and the file system was bench-marked using Hadoop.

Probabilistic model for simulating CMS experiments

New Delhi

Department of Physics & Astrophysics, University of Delhi

Aug. 2013 - Jan. 2014

- Simulated million diverse events that occur during the CMS experiment at the LHC by generating pseudo samples of data.
- Samples were obtained by inverse transform samplings (Box Muller & Marsaglia). Various hypothesis were then tested over these data-sets to simulate detection of the Higgs.

Road Traffic Modeling and Simulation

New Delhi

University of Delhi: Innovation Project

Jul. 2012 - May 2013

- Developed a mathematical model to simulate real time traffic on selected roads of Delhi.
- Traffic Jams were analyzed to create a realistic simulation.
- Used recordings and simulations to obtain solutions for the Traffic. Exhaustive testing of new layouts and occasional modifications were made to the vehicle rules for the same region of space to obtain desired results.

City Planning and Route Optimization

New Delhi

Cluster Innovation Centre

Aug. 2013 - Dec. 2013

- Developed a plan for a city by optimizing the available free space and the traveling routes using Graph Theory.
- The efficiency of Floyd-Warshall, Dijkstra and Genetic Algorithms were compared and a new shortest path algorithm was also proposed.

Radial breathing mode analysis of SWCNT

New Delhi

Cluster Innovation Centre

Aug. 2012 - Dec. 2012

- Studied the normal modes of vibrations a Carbon Nanotube using Singular Value Decomposition(SVD) analysis on molecular dynamics data.

Development of GPS based SOS Tracking System

New Delhi

Cluster Innovation Centre

Aug. 2013 - Jan. 2014

- The GPS module SIM908 interfaced on Arduino platform is used to trigger an SOS signal depending upon the pulse rate of a person at the time of accident like scenario. This device module can prove extremely useful especially when help is needed urgently and the victim is unconscious.

Co-Curricular Activities

GENPACT

Gurugram

Instructor

Jan. 2017 - Apr. 2017

- Volunteered as an instructor and conducted sessions on basics of Python programming language, machine learning concepts such as KNN, Trees, ANN, GridSearch CV, model generalization as well as NLP.

V.K.R.V. Rao Hostel

New Delhi

Cultural Secretary

2014 - 2015

- Responsible for organizing events in the hostel like freshers, farewell, festivals and other cultural activities. Also, hosted the annual cultural event Umang'13.

University of Delhi

New Delhi

Volunteer

2012

- Volunteered at the first Academic Congress organized by University of Delhi.The three day long event witnessed hundreds of acclaimed academicians stepping up to bring a paradigm shift in country's higher education system.

Yaduvanshi Shiksha Niketan

Mahendergarh

Team Captain

2011

- Captained school volleyball team which ranked 4th out of 64 in CBSE Cluster Tournament.

Tests & Certifications

Aug 2016	**IELTS**, Band - 7	*Delhi*
May 2017	**Machine Learning with Python**, Big Data University	*Online*
May 2017	**Deep Learning 101**, Big Data University	*Online*