DIVYANSH AGARWAL

Male, 22 years

Email id: divyansha@iiitd.ac.in   Blog: https://atrystwithprogramming.wordpress.com/

Ph: +91-9958256111   Github: https://github.com/jigsaw2212/

ACADEMIC QUALIFICATIONS

EDUCATION	INSTITUTE/ SCHOOL, CITY	YEAR	PERCENTAGE
B.Tech. in Information Technology	Netaji Subhas Institute of Technology (NSIT), Delhi University, New Delhi	2012 -16	78%
Class 12th: CBSE Board	Mount Carmel School, Dwarka, New Delhi	2012	94%
Class 10th: CBSE Board	Mount Carmel School, Dwarka, New Delhi	2010	9.8 CGPA

EXPERIENCE

- **Research Associate, Precog Research Group, IIIT Delhi**   (June 2016 - Present)
  Working at PreCog research group under Dr Ponnurangam Kumaraguru (PK) at IIIT-Delhi. My research deals with computational social science problems like analyzing selfie deaths and developing a real time data analytics tool for mining data from OSNs.

- **Undergraduate Researcher and Developer, CAITFS Research Group, NSIT**   (2014 – May 2016)
  Spearheading research on the interplay of machine learning and computer networking with the Centre for advanced studies in IT (CAITFS) lab in NSIT. Concluded two research projects on the development of novel routing protocols for wireless opportunistic networks.

- **Infrastructure and Data Science Intern, TrulyMadly Matchmakers Pvt. Ltd**.   (Summer 2015)
  TrulyMadly has earned fame as India's most popular dating app. I worked as a part of their engineering team on building their face and nudity detection system, using computer vision techniques.

- **Research Analyst Intern, Riannov Consultants Pvt. Ltd**   (Summer 2014)
  Riannov Consultancy is a startup which aims to provide technical education in the form of specially designed computer science courses to underprivileged students. I worked primarily as a C++ and Python developer and also analyzed market landscape using primary and secondary market research.

TECHNICAL PROJECTS

- **Me, Myself and My Killfie: Characterizing and Preventing Selfie Deaths**;   (2016)
  Part of a team to analyze the selfie deaths happening around the world; engineered features using real world data; classifier detected dangerous selfies with 83% accuracy on 10-fold cross validation

- **Large scale data analysis system for mining data from online social networks**;   (2016-17)
  Currently leading the development of a government funded project to gather open source intelligence by collecting data from public APIs and generating real time analytics in a distributed environment.

- **Opportunistic network routing protocol using unsupervised machine learning;** Developed a protocol which applies an optimized K-Means clustering technique on a network in order to learn the cluster of next best hops for every message, based on a variety of features generated dynamically.   (2015)

- **Encounter and Distance based Opportunistic network packet routing protocol;** Devised an opportunistic network protocol which routes packets by learning the encounters and distances of nodes from each message destination. **Paper accepted at the 30th IEEE conference on AINA.**   (2014)

- **Facial Key point Detection** using **Convolutional Neural Networks,** Developed and trained a multilayer convolutional neural network on 7k facial images using tensorflow, to detect 15 facial key points; This technique was then used for generating a facial recognition model.

- **Recommender System using collaborative filtering**; Implemented machine learning based recommender system which performs feature learning through collaborative filtering technique in Matlab to recommend movies to users based on their preferences (Accuracy = 96%).

- **Titanic: Machine Learning from disaster** challenge on Kaggle; Used libraries like scikit-learn, numpy and pandas in python to implement Logistic Regression (Accuracy =78%) and Random Forest Classifier (Accuracy = 81%) on the dataset to predict if a given passenger will survive the disaster or not.

TECHNICAL SKILLS

- Knowledge of **C++, Python, C, Ruby** and **Java** programming languages
- Experience with libraries like STL, scikit-learn, matplotlib, OpenCV, Lasagne, numpy, pandas etc.
- Web technologies like HTML, Javascript, Ruby on Rails, CSS, Flask Microframework, Wordpress etc.
- Proficiency in Git, Matlab, Octave, SQL, MongoDB, ONE simulator, WAMP, Hadoop, Latex etc**.**

COURSES / CERTIFICATIONS

- **Relevant Courses** – Data Structures and Algorithms, Operating Systems, Computer Networking, Database Management Systems, Object Oriented Programming, Human Computer Interaction, Distributed Systems, Internet & Web Engineering, Pattern Recognition and Artificial Intelligence.

- MOOC | **Machine Learning** by Andrew Ng, Stanford University; Implemented supervised and unsupervised learning techniques like Linear Regression, Logistic Regression, Neural Networks, Support Vector Machine, Principle Component Analysis, Anomaly detection etc.

- MOOC **| Algorithms: Design and Analysis** by Tim Roughgarden, Stanford University; Learned analysis of algorithms and implemented Divide and conquer technique, Greedy algorithms, Dynamic Programming, Hash Tables and encoding techniques, Graph primitives, etc.

- MOOC | **Introduction to Hadoop and MapReduce** by Cloudera; Implemented MapReduce jobs using Hadoop in Python to process supermarket sales, web server logs and Udacity online forum activities.

- MOOC | **Introduction to Neuroeconomics** by Vasily Klucharev, Higher School of Economics; Understanding how the neuronal populations in the human brain makes decisions.

- MOOC | **Artificial Intelligence CS188x** by UC Berkeley (Currently pursuing); Implemented uninformed, heuristic, minimax and expectimax search techniques, CSPs and Alpha-Beta Pruning.

- Participated in the **Entrepreneurship Development Programme;** Organized by National Foundation of Indian Engineers; Learned virtues of leadership, entrepreneurship and solved real life case studies.

ACHIEVEMENTS, AWARDS AND HOBBIES

- **Operations** and **Technical Head**, Award winning delegation to **Harvard National Model UN 2014** in **Boston, USA;** Selected among 400+ applicants; Organized 10+ training workshops; Managed the HNMUN portal and delegation website.
- **Mentor and Technical Advisor**, NSIT's award winning delegation to Harvard National MUN'15
- Executive Member, **ACM NSIT Student Chapter**, with the aim to foster a career in research and programming among students.
- **Organizer** and **Master of Ceremonies** at TEDx NSIT 2014 conference.
- Recipient of **Merit Scholarship from the Director of NSIT,** for an exceptional academic performance in the 1st, 2nd and 3rd year of university studies, featuring among the top 10 percentile of students.
- **School Topper in Computer Science**, securing 99/100 in Class 12th; Received Merit Certificate and Cash Prize. (2012)
- **Awarded Student of The Year award** among 1000+ school students by The Times of India, a national daily for academic achievements, all round excellence and active social responsibility. (2010)
- Volunteer at **The Art Of Living** NGO and part of Volunteer for a Better India Initiative. (2013)