

Rohan Singh

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EDUCATION

- **Carnegie Mellon University** Pittsburgh, PA
Master of Information Systems Management; GPA: 3.87 (Highest Distinction, Dean's List) May - 2018
Courses: Machine Learning, Distributed Systems, Database Management, NoSQL, Statistics, Data Structures, Optimization, Economic Analysis, Practical Data Science, Managing Disruptive Technologies, Data Mining
- **Birla Institute of Technology** Mesra, India
Bachelor of Computer Science; GPA: 3.5 (7.70/10.0 - First Class with Distinction) June - 2011

SKILLS SUMMARY

- **Languages:** Python, Java, C++, SQL, C, VB, C#, R, Scala
- **Tools:** Hive, PIG, Spark, Hadoop, MapReduce, Keras, TensorFlow, Java Enterprise, GIT, JIRA, Matlab, Tableau, MS-Excel
- **Databases:** MS-SQL, Redis, Cassandra, MongoDB, Oracle

ACADEMIC PROJECTS

- **Face Classification:** Used the dataset from <http://vis-www.cs.umass.edu/lfw/>. Applied KMeans++ and Gaussian Mixture Model (not using sklearn) for clustering and classification. Quality of clusters was based on Cross-Entropy Loss. Achieved an accuracy of 86.66% on noisy images. (Apr '18)
- **Pet breed Classification:** Used the dataset from <http://www.robots.ox.ac.uk/~vgg/data/pets/>. Used a pre-trained VGG_16 model from PyTorch to create features and used logistic regression to identify pet breed with over 50% accuracy. (Apr '18)
- **Reverse Web Graph clustering using Map Reduce:** Used python multiprocessing to create a reverse web graph and used Map Reduce to cluster the URLs.) (Apr '18)
- **US agricultural Policies and Obesity:** Analyzed the impact of agricultural policies on the obesity level at state level. Found statistically significant proof of increasing obesity in the US with factors such as reduction in soybean and corn prices. (May '18)
- **Strategic analysis of Trucking Industry and Driver Shortage:** Analyzed a massive data to come up with strategic methods to solve the driver shortage problem for long distance trucking.(May '18)
- **Image Labeler:** Developed an android app to label images given as input by implementing a cloud based REST service that used Google's Cloud Vision API running on Google Cloud. (Nov. '17)
- **BlockChain:** Implemented a **REST** based **BlockChain** service in **Java** to simulate the working of a BlockChain (Oct. '17)
- **Movie Review Classifier:** Implemented a Naive Bayes/Logistic Regression classifier from scratch in python using numpy to classify movie reviews on IMDB as positive or negative. (Sept. '17)
- **MNIST Character Recognition Using Convolutional Neural Nets(CNNs):** Implemented a convolutional neural network using Numpy (Python) to recognize handwritten characters with 98.79% accuracy. (Oct. '17)
- **IoT Encryption:** Implemented the RSA algorithm in **Java** to secure socket-based communication between client and server. Applied the infrastructure to securely communicate data from IoT sensors to servers.(Sep. '17)

EXPERIENCE

- **IBM** San Francisco, CA
Data Scientist July 2018 - Current
- **Carnegie Mellon University** Pittsburgh, PA
Research Assistant - Alessandro Acquisti Jan 2018 - May 2018
Developed a data gathering tool to analyze effects of advertisement and their locations in google search results.
- **Carnegie Mellon University** Pittsburgh, PA
Teaching Assistant - Database Management Aug 2017 - Dec 2017
 - **Grader:** Graded student assignments and helped students in understanding critical concepts.
- **Sapient Global Markets (Client: Citadel LLC.)** Chicago, IL
Associate Technology L2 Mar 2015 - Apr 2017
 - **Lead Developer:** Formed and coached an offshore team of 3 based in India by making several trips to India, resulting in streamlined operations for the client and addition of ~\$300,000 in revenues for Sapient.
 - **Data Quality Monitoring System:** Developed a flexible monitoring system to check quality of external data from vendors using state-of-art statistical data analysis, resulting in 200% decrease in turn-around time.
 - **Vendor Management:** Directed the vendor to fix their systems by identifying the top three reasons for bad data and negotiated with the vendor to provide 24x7 support in case of missing/bad data.

- **Sapient Global Markets** London, GB
Associate Technology L1 *Mar 2014 - Mar 2015*
 - **Commodity Trading Dashboard:** Architected a front-end interface, enabling the trading team to run models on-demand and make quick decisions.
 - **Strategy Modelling:** Revamped the legacy MS-Excel analysis system to use python along with modern scientific packages, reducing the model development and testing time exponentially.
 - **Future Pricing Model:** Implemented a model to generate trading signals for soft commodity futures based on several complex and hard to determine inputs.
- **Sapient Global Markets (Client: Citadel Securities)** Gurgaon, India
Junior Associate *Feb 2012 - Feb 2014*
 - **Brokerage Client Dashboard:** Conceptualized an interface for managing brokerage clients and implemented the complete system, expediting the client onboarding and reporting process.
 - **Low Touch Servers:** Developed servers which processed over a billion shares a day which enabled adding new clients with high trading volumes and increased revenues to record levels.

AWARDS, SOCIAL WORK, AND INTERESTS

- **Awards:** *Dean's List* Outstanding GPA, Summer Semester (Aug 2017, Carnegie Mellon).
Citadel Puzzles Multitime winner of Citadel's Monthly Puzzle challenge given to top 3 fastest puzzle solvers.
- **Social Work:** *Ugly Indian* (Intermittently: 2011,2015): Led the regional street-cleaning team.
Urban Mobility (Intermittently: 2011,2015): Represented Sapient at the initiative to solve the traffic problem in India.
- **Interests:** Travelling: 18 countries and counting. Photography: Taking landscape photos.