

# Deependra Singh

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RESEARCH INTERESTS	Computational Genomics, Data Mining, Machine Learning	
WORK EXPERIENCE	<b>Groupon</b> Data Scientist, <i>Search &amp; Data Mining</i> Responsible for enhancing and integrating query-category Click Model into Groupon search engine, effectively moving search relevance banding from manual to machine learnt, and registering millions of dollars of revenue increase.	Palo Alto, CA Oct 2015 – Present
	<b>Groupon</b> Data Scientist, <i>Data Science</i> Involved in building machine learnt models for demand forecasting, identifying the right category and price assortments and user email engagement for four largest European markets. In addition, conducted various user behavior studies using statistical methods to identify actionable business insights for said markets.	Chennai, India Jun 2014 – Sep 2015
	<b>Zumbl</b> Software Developer Intern Designed and developed user feature based personalization algorithms and credit based market system for a social network start-up.	New Delhi, India Summer 2013
EDUCATION	<b>Indian Institute of Technology Delhi</b> B.Tech. in Computer Science & Engineering GPA: 6.52/10	New Delhi, India Jul 2010 – May 2014
	<b>Rajasthan Board of Secondary Education</b> Class XII Percentage: 91.38%	Alwar, India June 2010
OTHER COURSES	<b>University of California Santa Cruz – Silicon Valley Extension</b> • Next Generation DNA Sequencing: Methods & Applications (Received Highest Grade) • Predictive Analytics: Applications of Machine Learning (Received Highest Grade)	Santa Clara, CA Fall 2016 Fall 2016
	<b>Coursera – Massachusetts Institute of Technology (MIT)</b> • Introduction to Biology by Prof. Eric S. Lander (Received Passing Grade)	Online Fall 2016
PUBLICATIONS	<i>Deependra Singh</i> , Vinay Deolalikar: “Automating Relevance Banding in eCommerce Search using Click Model”. 39th European Conference on Information Retrieval (ECIR 2017). <a href="#">abstract-pdf</a> <i>Vinay Deolalikar</i> , <i>Deependra Singh</i> : “How Informative are the Concept Associations Discovered by a Document Cluster?”. 21st Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD 2017). <a href="#">abstract-pdf</a> <i>Neeraj Pradhan</i> , <i>Vinay Deolalikar</i> , <i>Deependra Singh</i> : “Islands of Interest: Mining Concentrations of User Search Intent over E-commerce Product Categories”. 21st Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD 2017). <a href="#">abstract-pdf</a> <i>Vinay Deolalikar</i> , <i>Deependra Singh</i> : “Can Econometrics Answer When High Dimensional Text Clusters have Short Signatures?”. 17th SIAM International Conference on Data Mining & Analytics (SDM 2017). <a href="#">abstract-pdf</a>	
PATENTS	<i>Deependra Singh</i> , Vinay Deolalikar: “Automating Relevance Banding in eCommerce Search using Click Model”. [US Patent Filed]	
SELECTED PROJECTS	<b>UCSC – Silicon Valley Extension</b> • <i>Locating Protein Coding Regions in Human DNA</i> Used decision tree algorithm to produce classifiers based on several coding measures to distinguish	Santa Clara, CA Fall 2016

between protein coding and noncoding regions on Human DNA sequences ranging from 54 to 162 base pairs in length.

**Groupon** Palo Alto, CA  
 • *Automating Relevance Banding in eCommerce Search* Mar – Nov 2016  
 Automated the process of relevance banding using statistical and information theoretic concepts over query-category probability distribution provided by Click Model, and deployed to production.

**Groupon** Chennai, India  
 • *User Email Engagement Prediction* Jun – Sep 2015  
 Worked on developing models for UK market to predict future user engagement with Groupon through emails based on user features and historical activities.  
 • *Demand Forecasting* Jul – Nov 2014  
 Worked on developing a machine learning framework to forecast demand in assorted categories and price ranges for each local Groupon market in UK, Germany, France and Italy.

**Indian Institute of Technology Delhi** New Delhi, India  
 • *Enhancements in NVDA Screen Reader (B.Tech. Thesis)* Jul 2013 – May 2014  
 Added support for complete set of charts in Microsoft Excel and enhanced support for web browsers in the Python-based open source screen reader NonVisual Desktop Access (NVDA), incorporating feedback from visually impaired community.  
 • *Pintos Operating System* Spring 2013  
 Implemented system calls infrastructure, extended the virtual memory implementation and file system support on the bare-bones operating system for x86, Pintos.  
 • *Networked Multiplayer Carom Game* Fall 2011  
 Designed and Developed a multiplayer networked carom game in C++ using OpenGL for graphics, and TCP for network calls.

PROGRAMMING Java, Python, Hive, Hadoop, SQL, MATLAB, R, Shell, C++, C, Standard ML, MIPS Assembly, VHDL

AWARDS & ACHIEVEMENTS  
 • Awarded Merit-cum-Means scholarship by Ministry of Human Resources, Govt. of India. [2010 – 2014]  
 • Youngest of the graduating class of 2014 having completed bachelor's degree at the age of 19. [2014]  
 • Secured All India Rank 462 among over 500,000 students in IIT-JEE 2010. [2010]

TEACHING **Make A Difference** New Delhi, India  
 EXPERIENCE Mathematics Teacher Jan – Apr 2014  
 (VOLUNTEER) Taught Mathematics to a group of class XII students living in an orphanage assisting them with their Boards preparation.

**Make A Difference** Chennai, India  
 English Teacher Jul 2014 – Apr 2015  
 Taught introductory English to a class of 30 freshmen living in a shelter home assisting them with the change in medium of instruction from Tamil to English.