

# Abhinav Sood

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## Technical Skills

Python, SQL, R, Scala, Spark, Hadoop, Hive, Keras, Scikit-learn, Tableau, Unix, Git

## Professional Experience

### Data Scientist, Artificial Intelligence and Machine Learning

May 2017 – Present

Scotiabank – Toronto, Canada

- Developed anomaly detection frameworks for Scotiabank digital channels resulting in estimated annual loss avoidance of \$8.5MM using supervised and unsupervised techniques
- Built an AI based solution to reduce the number of manual credit adjudication cases by 75% resulting in increased operational efficiency and decrease in processing time from 2 months to just a few days
- Developed image processing and OCR based data transformation and integration pipelines for information verification and document categorization using deep neural networks
- Implemented RESTful APIs to surface machine learning predictions resulting in increased usage and adoption of AI across the business lines, and delivered Tableau dashboards for visualization of insights

### Data Scientist, Co-op

May 2016 – Dec 2016

PHEMI Systems – Vancouver, Canada

- Developed PHEMI Data Science Toolkit to enable enterprise-grade big data analytics with strong focus on privacy, security and governance
- Created an elaborate text mining pipeline to clean & process large unstructured datasets to reveal high quality information and hidden insights using machine learning techniques such Word2Vec, LDA, etc.
- Synthesized big datasets modelled after complex real-world processes such as Internet of Things and wearable device data, to demonstrate applications of machine learning and visual analytics
- Implemented an algorithm to analyze gene mutations for studying genetic diversity in populations using Spark, in each of Scala, Python and R, to compare performance and demonstrate feature-readiness

### Data Miner, Consultant for Financial Crime and Compliance Management

Jun 2014 – Jul 2015

Oracle Financial Services Software – Bangalore, India

- Developed custom behavior detection scenarios for anti-money laundering using Oracle's Financial Crime and Compliance Management (FCCM) product offering
- Provided FCCM consulting to global financial institutions by mining and analyzing large financial datasets as a Data Miner specializing in Oracle Mantas Anti Money Laundering (AML) platform,
- Configured, installed and administrated Oracle Financial Services Analytical Applications (OFSAA) suite for clients, and integrated modules for Anti-Money Laundering, Know Your Customer, Regulatory Reporting Service and other financial services applications with OFSAA Infrastructure

### Systems Engineer

Jan 2012 – May 2014

Tata Consultancy Services – Bangalore, India

- Scoped complex business requirements from globally distributed cross-functional teams and converted them into database-driven software applications
- Led process improvement initiatives such as automating distribution center allocation of packaged semiconductors based on demand & supply resulting in annual savings in excess of \$10M
- Developed and maintained database applications for managing e-waste inventory, and for registering safety, handling and export control information for chemicals used at chip manufacturing facilities

## Certifications

Introduction to R Programming, Microsoft

Sep 2015

Oracle Certified PL SQL Developer Associate, Oracle

Mar 2014

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## Awards and Honors

- **Honorable Mention**, HackBD 2016, BuildDirect – Vancouver, Canada **Sep 2016**  
Developed a Visual Search and Recommendation Engine on top of Google Vision API, and BuildDirect Product and 3D Model APIs
- **Center of Excellence for Financial Crime and Compliance Management**, Oracle **Sep 2014**  
Financial Services Software – Bangalore, India
- **On the Spot Award**, Tata Consultancy Services – Bangalore, India **Mar 2014**  
Received from EVP and Head, Global HR, for outstanding contribution to the organization with process improvement initiatives and timely delivery of high quality software

## Education

**M.Sc., Computing Science, Professional Masters in Big Data** **Sep 2015 – Apr 2017**  
Simon Fraser University, Canada

**B.Tech., Computer Science and Engineering** **Aug 2007 - May 2011**  
Punjab Technical University, India

## Internships

**Research Intern**, Gade Autonomous Systems Pvt. Ltd. – Hyderabad, India **Nov 2011 – Dec 2011**  
Developed Human-Robot Interaction module on a NAO humanoid robot to promote social and linguistic learning in children suffering from autistic spectrum disorder

**Software Development Intern**, Clip Weave Solutions Pvt. Ltd. – Noida, India **Jan 2011 – Jun 2011**  
Developed User & Playlist Management APIs for a video bookmarking service **Jul 2010 – Aug 2010**

## Academic Projects

- Developed a streaming analytics application to analyze music popularity trends in Twitter using Spark
- Developed a machine learning project to analyze performance of mutual funds and reveal relative importance of factors that affect performance over different terms, using Spark and Jupyter
- Built a recommendation engine to suggest Canadian universities based on statistical research interests, and vice versa, using Topic Modeling on conference abstracts published by Statistical Society of Canada
- Devised a project to suggest optimal brewery tours across Metro Vancouver using a curated dataset of brewery ratings and beer attributes by solving a constrained travelling salesman problem
- Evaluated and compared performance of convolutional neural networks, feed-forward neural networks and support vector machines for ten-class image recognition (company logos) using Caffe and MATLAB

## Personal Projects

- Built an open-source tool using Python to download videos for courses enrolled in at Stanford University's Stanford Center for Professional development using web scraping techniques
- Built an SQL tool to validate CAS Registry Numbers that uniquely identify all known chemicals
- Developed iDunnit, a natural language emulating task management application in PHP