

# SURAJ IYER

DATA SCIENTIST

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Born on March 20th, 1996 in Mumbai, India

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## SUMMARY

Recent Data science graduate with proven machine learning, problem solving and programming skills. Experience developing predictive and prescriptive models for CRM in financial domain as well as additional experiences. Seeking opportunities to apply data science skills on challenging research problems.

## EDUCATION

### ● MSc. Computer Science Engineering

Eindhoven University of Technology |  
2016 - 2018 | GPA: 8.1 / 10

- Specialization in Data science and Software Engineering.
- Excelled in machine learning and data science coursework.

### ● BSc. Computer Science Engineering

Eindhoven University of Technology |  
2013 - 2016 | GPA: 7.9 / 10

- **Bachelor Thesis:** developed a web application to connect football coaches and players for organizing club activities. Achieved a 9.5 (of 10) with recognition for problem solving skills and team work under Agile setting.
- Specialization in Software Engineering and electives in AI and statistics.
- Well-versed in Agile scrum practice.

## EXPERIENCE

### ● Journey & Chain Analyst

VodafoneZiggo | Utrecht | Dec 2018 - Present

- Deriving actionable insights and creating predictive models for customer experience improvement.
- Coordinating with customer journey managers and BI team on what data is needed.
  - Creating analysis reports across Company level, Product level, Journey level and Touchpoint level NPS data of customer satisfaction for use in making organizational decisions.
- keywords:** *R, Python, SQL, Celonis, Qlik*

### ● Data Science Intern

ING Bank | Amsterdam | Sep 2017 - Sep 2018

- **Graduation Thesis:** Research and design of novel framework for predicting channel preference of customers to increase conversions and return-on-investment on marketing campaigns.
    - Translated business requirements of database marketers into model design.
    - Formatted, cleaned, combined and filtered billions of rows of customer channel interactions data.
    - Engineered >50 features to quantify customer behavior across online and offline channels.
    - Implemented a production-ready three-stage ML framework to increase customer responses.
    - Promoted the product to business stakeholders.
  - **Internship project:** Design of new banking leads generation model to improve leads quality.
    - Discovered and fixed critical issues in feature generation process in existing deployment.
    - Leveraged feedback loop data and created a production-ready model to improve precision of predicted leads.
    - Created a model workflow simulation to give proof of continuous improvement to stakeholders.
    - Forked, improved and deployed a python library to distribute scikit grid searches over spark nodes minimizing training time.
- keywords:** *Python, Spark, Bash, Hadoop / Hive, Netezza SQL, Git*

### ● Research associate

Blue Mango | Eindhoven | Sep 2015 - Sep 2016

- Researched algorithms to improve predictions of Ad Click-through rates (CTR) central to the online marketing business of Blue Mango.
- Solved the main challenge of class imbalance due to low CTR in advertising domain.
  - Benchmarked multiple algorithms with and without applying SMOTE upsampling techniques.
  - Achieved 59% decrease in average log-loss from 0.68 to 0.28 on real-world datasets with SMOTE + random under-sampling, thereby confirming research hypothesis.
- keywords:** *Python, R, MySQL, Git*



## PROJECTS

- adidas Hackathon 2018

Adidas | Amsterdam | Jun 2018 - Jun 2018

Personalizing & improving next-generation shopping experience by integrating machine learning.

  - Developed generative adversarial networks (GANs) to create personalized products by "transferring the style" of your favorite patterns / textures / images.
  - Developed an independent hybrid mobile application with IONIC framework which communicated with the prediction backend, bringing our team to the finals.
  - Link to implementation: <https://github.com/surajiyer/Adidas-Hackathon-2018>

**keywords:** *Python, Tensorflow, IONIC, MEAN stack, Git*
- Recommender Systems

Eindhoven | Mar 2018 - May 2018

Tutorials on applying neural networks to information retrieval challenges.

  - Using CBoW and Skipgram models to generate word embeddings for analogy detection and sentence reconstruction.
  - Generate image neural codes using AutoEncoders and apply them to image retrieval.
  - Using Siamese networks and RNNs to generate image and document embeddings respectively and apply them to one-shot learning tasks.
  - Exercise on using Triplet network for unsupervised image-caption retrieval problem.
  - Link to IPython notebooks: <https://github.com/surajiyer/Recommender-Systems>

**keywords:** *Python, Keras, Matplotlib*
- Transfer learning with TrAdaBoost

Eindhoven | Jan 2018 - Jan 2018

Developed a python scikit-learn implementation of the TrAdaBoost algorithm from ICML '07 "Boosting for Transfer Learning".

  - Exploring transfer learning as a solution to sample selection bias correction in training models on financial datasets.
  - Link to implementation: <https://github.com/surajiyer/Transfer-learning-with-TrAdaBoost>
  - Link to the paper: <http://www.machinelearning.org/proceedings/icml2007/papers/72.pdf>

**keywords:** *Python, Sklearn*
- Brexit Rumor Analysis

Eindhoven | Sep 2016 - Nov 2016

Rumor detection and verification system for the Brexit referendum topic.

  - Setting up data collection and text preprocessing for >1 million brexit tweets.
  - Engineered 30+ tweet-level, user-level and rumor-level features per tweet.
  - Helped with hierarchical clustering of tweets into predefined rumor topics using topic filters.
  - Designed two models: (1) for verification of rumor, (2) for falsification of rumor. Combine them both using natural cut-off values to control precision and recall.
  - Link to implementation: <https://github.com/mthaak/2imw15-project>

**keywords:** *Python, Sklearn, ElasticSearch*



## ACHIEVEMENTS

- BACHELORS HONOURS PROGRAM

Honours program at TU/e is a 2-year extra-curricular program for high-achieving students across all disciplines. Received a letter of recommendation from the university director of science for the quality of work given and presentations.



## SKILLS

### PROGRAMMING

Python  
SQL  
NoSQL  
R  
Java  
HTML / CSS / JS

### TOOLS & LIBRARIES

Sklearn  
Pandas  
Matplotlib  
Keras + Tensorflow  
Spark  
Hadoop/Hive  
Bash  
Git  
Azure ML  
Node.js (MEAN stack)

### CORE SKILLS

Machine Learning  
Deep Learning  
EDA  
Predictive Analytics  
Software Engineering  
Research

### SOFT SKILLS

Teamwork  
Presentation

### LANGUAGE

English      Professional  
Dutch        Elementary