Rahul Avadhoot

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SUMMARY

MS Chemical Engineering graduate from University of Washington with a minor in Data Science. Strong programming, machine learning and statistics skills. Interested in solving data science problems to drive business outcomes

EDUCATION

University of Washington, Seattle, WA — Mar 2018
Master of Science (M.S.) in Chemical Engineering, GPA: 3.81/4.0
Data Intensive Research Enabling Clean Technologies (DIRECT) training program

Visvesvaraya National Institute of Technology (VNIT), Nagpur, India — May 2015
Bachelor of Technology (B.Tech.) in Chemical Engineering, GPA: 8.41/10

Continuing Education: Deep Learning Specialization (via Coursera.com) — Mar 2019

TECHNICAL SKILLS

- **Programming/Tools:** Python (pandas, scikit-learn, keras, seaborn, tensorflow), R (dpylr, ggplot2), SQL (SQLite, MongoDB) and Shell scripting. Proficient in Git, GitHub, Tableau and familiar with AWS and Azure
- **Math:** linear algebra, multivariate calculus, numerical methods, probability theory, hypothesis testing
- **Data Science:** linear regression, logistic regression, support vector machines, tree-based algorithms, clustering, recommender systems, PCA, neural networks (MLPs, CNNs, RNNs), reinforcement learning

WORK EXPERIENCE

Data Science Resident, Qulab Inc., Los Angeles, CA — Apr 2019-Present

- Trained QSAR models in Python to predict ADMET properties like oral bioavailability and human intestinal absorption (HIA) using RDKit and Scikit-Learn. Developed compartmental models in Python to estimate oral drug absorption

Research Assistant (MS Thesis), University of Washington, Seattle, WA — Jun 2017-Dec 2018

- Developed PyMolSAR, a Python tool to compute 760 2D molecular descriptors using RDKit. Trained machine learning and deep learning models on open-source cheminformatics datasets to predict drug properties such as melting points, enzyme inhibition activities, etc. with accuracies of 75-90% using Scikit-Learn and Keras

Data Science Researcher, DIRECT Program, University of Washington, Seattle, WA — Jan 2017-Jul 2017

- Led a group of 3 graduate students to web-scrape data of 27,000 published papers from academic citation indexes. Built a Tableau dashboard of the knowledge network to track collaborations in nuclear energy research around the world
- Led a group of 4 graduate students to develop auto-regression (AR) models and visualizations for clean energy demand forecasting in the United States

PROJECTS

E-Commerce Product Classifier *(Independent Project)* — Nov 2017-Jan 2017

- Built a pipeline for classifying 60,000 products into 63 categories using bag-of-words and pre-trained VGG-16 models. Achieved a text classification accuracy of 87% and image classification accuracy of 82%