MITESH GADGIL

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Education

M.S., Electrical & Computer Engineering, University of California, San Diego ***Exp. March '17***
- Courses: Big Data, Statistical Learning, Data Visualization Design, Web Mining, Algorithms GPA: 3.53/4
- Achieved **A+** grade in the 'Exploratory Data Analysis and Inference' graduate course

Bachelor of Engineering, Birla Institute of Technology & Science Pilani, India ***June '15***
- Led the college team in RoboCon- a National Robotics competition in 2013 & 2014 (32nd place) CGPA: 8.82/10

Technical Skills

Programming & Software: Python, R, Spark, C, MATLAB, Tableau, Linux, Git, C++, SQL, Map Reduce
Machine Learning: Model Tuning & Validation, Ensemble Methods, NLP, Deep Learning, Bayesian Statistics

Work Experience

Graduate Teaching Assistant **University of California, San Diego** **May '16 - Present**
- Conducted physics lab sessions for a class of **25** and taught them methods of **data collection** and **error analysis**
- Organized weekly discussions to clear doubts & solve problems in signal processing for a class of **105** students

Software Engineering Intern **Tonbo Imaging, India** **Jan – June '15**
- Interfaced peripherals like OLED micro-display and GPS module to extend functionality of an imaging product
- Developed code to **auto-regulate** OLED display brightness & **parse data** from the GPS to implement geo-tagging
- Designed experiments to compare various temperature sensors and analysed the collected data using apt performance metrics to prepare a **data-driven report** for the VP Engineering

Software Engineering Intern **Mapyn Technologies, India** **Mar – May '13**
- Upgraded an industrial lift by implementing **safety features** in C++ using inputs from multiple sensors
- Deployed **linear regression** to predict the load placed on lift and auto-check if it is within the permissible limit

Recent Projects *https://miteshgadgil.github.io/*

Loan Granting Classification: Microsoft Challenge *[Python, Pandas, Seaborn, Scikit-learn]*
- Built a model to predict if an applicant will repay a loan using **dirty** & **unclean data** (255000 records, 19 features)
- Documented **end-to-end workflow** including data cleansing, visualization & modelling using Jupyter notebooks
- Achieved **84.7%** accuracy by tuning a **Random Forest** model & **interpreted** it to report insights from the dataset

Sentiment Analysis of Twitter User-Groups *[Python, Spark, Regex, Map Reduce]*
- Wrote a script to find the 10 most popular tokens among each user group by mining **100 GB** of **tweets** in **67 sec**.
- Used **Python API** to deploy **Spark** for data mining and inferred about the sentiments of different user groups
- Implemented '**k-means++' clustering** algorithm as per Map Reduce paradigm using Spark for cluster computing

Interactive Visualization of European Soccer Dataset *[Web App, R-shiny, SQL, Dashboard design]*
- Designed a web-app **dashboard** that visualized attributes of 10,000 soccer players to discover patterns & insights
- Aggregated data from 6 tables in a **SQL** database into a single information-rich dataset using joins, counts, etc.
- Coded dashboard features like **control widgets** to slice data and **reactive charts** for display using **R-shiny**

Predictive Modelling for Insurance Claims: Kaggle Contest *[R, Classification Models, Exploratory Data Analysis]*
- Trained a model to predict if a claim's approval can be expedited thus accelerating claims management process
- Performed data cleaning & exploration on the **anonymized data** with 134 features for **feature selection**
- Compared performance of **logistic regression,** Random forest & XgBoost for this **unbalanced classification** problem
- Achieved a spot in the **top 45%** among more than 2000 teams participating in the contest

Speech Processing Projects *[MATLAB, Digital Signal Processing, Optimization]*
- Speech compression: Coded the linear predictive coding (LPC) technique in MATLAB & analysed its performance
- Feature extraction: Implemented formant peak detection algorithm in MATLAB to characterize a speech signal
- Command Recognition: Developed a program that matches a real-time voice input command to one of the pre-stored templates in the database and executes the corresponding task