SAURABH KULKARNI

CONTACT INFORMATION	linkedin.com/in/saurabhkulkarni2312 saurabhkulkarni2312@gmail.com

CONTACT INFORMATION

linkedin.com/in/saurabhkulkarni2312

Portfolio: saurabhkulkarni2312.github.io

saurabhkulkarni2312@gmail.com

Ph.No: +1-858-729-8148

EDUCATION

University of California San Diego,
- MS. Electrical and Computer Engineering (Specialization: Intelligent Systems) (GPA: 3.5/4)

Birla Institute of Technology and Sciences,
- BE. Electrical and Electronics Engineering (GPA: 8.35/10)

WORK EXPERIENCE

Graduate Intern, IgrenEnergi, Inc   **Aug 2016 - Dec 2016**
- Explored solar forecasting techniques using device data, weather data, panel characteristics and shading patterns in Python. Project was implemented in R and Python.

Co-Founder and Tech Lead   **Jan 2015 - June 2015**
- Co-founded a company in medical devices space (Sattva). Selected among top 10 tech innovations in 2015 by Stanford Business School and FICCI at IIGP 2015. *(Results Link)*
- Developed a low-cost portable solution for fetal monitoring in rural India.

Undergraduate Intern, Intel   **July 2014 - Dec 2014**
- Implemented a accelerometer (ADXL345) and gyro (ITG3200) based linear and lateral g-force measuring system using Python and Octave. Pilot was tested on a 4-wheel vehicle using Rasberry Pi.
- G-forces and roll,pitch,yaw angles were estimated using adaptive algos.
- Sensor noise modeling was performed for steady state condition using Allan Variance in Octave

PROJECTS

Predictive Modelling for Insurance Claim Approvals   *[R: ggplot2, xgboost, glm, randomForest]*
- Implemented an end-to-end R-based data solution to classify 114000 insurance claims in an unclean imbalanced dataset with 133 variables.
- Predicted class probability Random Forest, XGboost and achieved improvement over logistic regression baselines. Achieved a logloss score of 0.456 using xgboost.

Amazon Reviews Recommender System   *[Python: sklearn, pandas, numpy, scipy]*
- Built a recommender systems to make ratings predictions and estimate review helpfulness for a given database of Amazon reviews.
- Ratings prediction was performed using linear models and latent factor models using alternating LS and achieved a 28% MSE improvement over baselines. Implemented GradientBoostedTrees to estimate helpfulness rating to improve MAE by 12%.

Image Segmentation using Probabilistic Techniques   *[MATLAB]*
- Performed object segmentation from given image using different learning techniques - Maximum Likelihood, Bayesian Estimation, Gaussian Mixture models using EM.
- Improved classification performance, achieved dimensionality reduction from ML model to EM

Handwritten Digit Classification   *[Python: scikit-learn, numpy, seaborn]*
- Performed digit recognition using several techniques: bayesian estimation, gradient descent using softmax and feed-forward multi-layered neural net with backprop in Python. Optimized performance for different learning rate, network topology, activation functions batch size.
- Achieved a best accuracy of 96.8% on the Neural Net.

Deep Learning   *[Python: keras]*
- Performed transfer Learning using Convolutional Neural Nets, using Keras, Tensorflow.
- Music Generation using Seq2Seq Recurrent Neural Network using Keras

SKILLS

Languages and Tools: Python, R, SQL, MATLAB, Spark, C, Linux, Git
Libraries: Numpy, Scipy, Sklearn, Pandas, Seaborn, Keras, Tensorflow
Coursework: Principles of AI, Statistical Learning, Recommender Systems and Data Mining, Neural Networks, Random Processes, Exploratory Data Analysis, Computer Vision
Concepts: Linear Models, Bayesian Statistical Learning, Random Forest, Boosting, Clustering, PCA, Neural Nets, Recommender Engines

LEADERSHIP & HOBBIES

Leadership: Co-founded medical device startup: selected as top 10 innovators at IIGP 2015 by SBS and FICCI. Led a team of 3 TAs and 8 tutors as head teaching assistant at UCSD.
Hobbies: Rock climbing, Hiking, Sketching, History