

Avinash Reddy

Linkden| Github
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EDUCATION

UNIVERSITY OF MICHIGAN

MASTERS IN APPLIED DATA SCIENCE, SCHOOL OF INFORMATION

Sep 2019 - Present | Ann Arbor, MI

Masters degree that can be taken online.

Expected graduation: Sep 2021

Cum. GPA: 3.7 / 4.0

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BACHELORS IN MECHANICAL ENGINEERING

Graduated in May 2013 | Bangalore, India

BMS College of Engineering

Cum. GPA: 8.76 / 10.0

EXPERIENCE

COLLINS AEROSPACE | SENIOR ENGINEER-MECHANICAL DESIGN

July 2013 - Nov 2019 | Bangalore, India

(Includes a 6 month sabbatical for start-up exposure)

- Design & Development of Speed Probes, Thermocouples, Continuous Fire Detectors (CFD), Advanced Pneumatic Detectors (APD), Smoke Detectors, Fire Extinguishers, Windshield Wipers systems.
- Concept generation and Design: Brain storming for concepts, requirements study and building design envelope, design for manufacturability, electronic packaging design, hermetic design, material selection, Tolerance stack-up analysis, DFMEA, PFMEA, concept modelling, detailed drawings, drawing release, GD&T, change requests/change orders execution.
- Testing and Qualification as per DO-160: Writing test procedures for tests as per DO-160. Vibration testing, writing technical, compliance matrix, similarity and analysis report, weight analysis report.

ACHIEVEMENTS

- Awarded Patent for Fire event in aircraft.
- Built Automation tool to write technical docs.

SKILLS

PROGRAMMING:

- Python - Good understanding.
- R - Basic Understanding.
- C++, Octave, MySQL, \LaTeX - Familiar.

MECHANICAL:

- ProE, CATIA, Teamcenter - Good understanding.

COURSEWORK

GRADUATE-SO FAR

Data Mining

- Data representations like Itemset, Vector, Sequence, Spatial, Network, Timestamps.
- Pattern identification in Itemsets-Apriori Algorithm.
- Similarity identification, basics of Principle Component Analysis (PCA), Singular Value Decomposition.
- Patterns and Similarity in Sequence Data, N-grams.

Manipulation, Visual Exploration of Data

- Data editing cleaning, Pandas Dataframes, Numppy, Regex.
- Extensive plots using Matplotlib, Seaborn, Plotly, Bokeh, Altair, Folium libraries.
- Projects are included in Github.

Experiment Design and Analysis

- Basics of conducting experiments, Lab vs Field Experiments, Casual Inference, Randomizing.
- Difference in Difference Estimator(DID), Blocking, Clustering.
- Design and Analysis Instrumental Variables(IV).

COURSERA COURSES

Machine Learning: Stanford University

- Basics of Machine Learning.
- Supervised Learning, gradient descent, Linear Regression, Logistic Regression, Multi-class classification, neural network basics.
- Bias, Variance, Regularisation.
- Unsupervised Learning, anomaly detection.

Inferential Statistical Analysis in Python

Python specialisation

Advanced Text Mining - In-progress

Data Analysis Using R - In-progress

TECHNICAL PROJECTS

TECHNICAL DOCUMENT AUTOMATION

Python Based Automation tool

- Built a tool to automatically write test procedures and generate test reports by taking user inputs.
- Used Python-Docx module to edit word documents.
- Used Kivy module to generate basic UI to gather information.

SUDOKU

Jupyter Notebook for Sudoku Solver| Github

- Built a sudoku solver on my own, works for basic and intermediate Sudoku Puzzles.
- Learned back tracking and implemented a Sudoku solver using backtracking algorithm.

DATA VISUALIZATION

University Assignments| Github

- Assignments done for Data exploration/visualisation: Github.