

# Avinash Reddy

Linkden| Github

xxx.xxx.xxxx | \*\*\*\*\*@gmail.com | Visa: L2 with work permit

## 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  $\text{\LaTeX}$ - Familiar.

### MECHANICAL:

- ProE, CATIA, Teamcenter - Good understanding.

## COURSEWORK

### GRADUATE-SO FAR

#### Data Mining

- Data representations like Itemset, Vector, Sequence, Spacial, 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, Causal 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.