

# Akarsh Bharadwaj

Bangalore - 54, Karnataka 

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Data Scientist with 2+ years of hands-on experience in delivering valuable insights via Data Analytics and Advanced Data driven methods using predictive modelling, Data Pre-processing, and Machine learning algorithms to solve challenging Business problems. Proven ability to understand Customer requirements and translate into actionable project plans. Dedicated and hard-working with a passion for Data Science.

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## Skills

- Strong in Data Science Technologies using Python Libraries of programming
- Data Analysis, Statistical and Predictive Modelling
- Have good experience in Machine Learning - ML Algorithms (Linear Regression, Logistic, Decision Tree, SVM, KNN, etc.)
- Experienced in working with Python Libraries (SciPy, NumPy, Pandas, Matplotlib, Scikitlearn, NLTK, TensorFlow, Keras, etc.)
- Basics on Deep Learning- Neural Networks, ANN, RNN, CNN.
- Hands on Experience with NLP and Computer Vision Projects.
- Exposed to complete Project Life Cycle – Analysis, Design, Coding, Testing and Implementations
- Worked on OCR- Tesseract OCR and Abby.
- Strong Communications and creative problem-solving skills

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## Experience

**TECH MAHINDRA: BANGALORE, KARNATAKA (JAN 2019 – PRESENT)**

### PROJECTS

**MARCH 2020 – PRESENT (AI COMPETENCY TEAM)**

#### **1.Menu Maker Tool on-prem/UberEATS, Bengaluru- Karnataka**

A Leading online Food Delivery Company that is interested in creating a tool that will capture Menu's from Restaurant to generate a custom CSV format for further process. Also making the tool applicable for Multi-Language (Cantonese, Mandarin, Spanish and Japanese).

**Role:** Data Analyst/ Python Developer.

**Language:** Python

**Technology & Packages:** Computer Vision, NLP, PyQt, OCR (Tesseract, OCR.space, Abbey), Pillow, OpenCV, Text blob.

#### **Responsibilities:**

- Understanding the whole documentation of the Business problem and acquiring knowledge.
- Built a tool using Python to capture Menu's by labelling the items.
- Used Tesseract OCR and improved accuracy with different techniques to capture the labels.
- For Multi-Languages - Adding a suggestion box in Tool for Agents to assist them for selection of item using Python Packages – (Google Translate, Text Blob, Wiki)

## 2.Menu Maker Tool - Cognitive on Cloud /UberEATS, Bengaluru- Karnataka

**Description:** Developing a ML Model for detecting the items in a Menu and generate a custom csv format for further process

**Role:** Data Scientist

**Language:** Python

**Technology & Packages:** Computer Vision, NLP, Machine Learning, Deep Learning, Data Analysis, TensorFlow, Object Detection, Flask, GCP, AI Platform.

**Responsibilities:**

- Used python on Visual Studio Code to clean and analyze Large Datasets.
- Developed Object Detection model using TensorFlow (Trained on Faster RCNN Model)
- Automated this ML solution completely with GCP pipeline by using Cloud Build, Cloud Scheduler and Cloud Function, Cloud Run and Google Kubernetes components.
- Also created an AI Pipeline in AI Platform for getting a CI/CD ML Solution.

## 3.Document Image understanding/Form Parser/CME Client, Bengaluru- Karnataka

**Description:** This Project aims in Document Image Understanding and Information Extraction Task from Forms and Receipts Data using NLP Techniques and Deep Learning Transformer Models. And building an Airflow Pipeline for orchestrating the Solution.

**Role:** Data Scientist.

**Language:** Python

**Technology & Packages:** NLP, Deep Learning, Transformers, LayoutLM -hugging face Transformer Model, Pytorch , MLflow, Airflow, Bentlyml .

**Responsibilities:**

- Understanding the whole documentation of the Business problem and acquiring knowledge.
- Gathering Data [FUNSD Data] and annotating the Images on Label studio Platform into their respective Labels.
- Pre-processing the obtained Json Data from Label Studio to the input format of Transformer Model.
- Model Training and Evaluation using Pytorch and layoutLM Transformer.
- Storing the Updated Model and its features in MLflow for future use.
- Serving the Final Model using Bentlyml Service.
- Building a Airflow Pipeline for the above mentioned steps to orchestrate the Solution automatically.

## 4.E-Newspaper Segmentation/Digital Works Client, Bengaluru- Karnataka

**Description:** Project aims in Image segmentation of Newspaper for CME Client using Vision Based Deep Learning Model for Segmentation tasks

**Role:** Data Scientist.

**Language:** Python

**Technology & Packages:** Computer Vision, Deep Learning, Image Segmentation, Pytorch, Detectron 2, Airflow, MLflow.

**Responsibilities:**

- Understanding the whole documentation of the Business problem and acquiring knowledge.
- Data Annotation using LabelMe tool with Indian Newspapers (Economic Times, Times of India, etc.).
- Preprocessing of data to the suitable formats (Mask Images, json)
- Building the Detectron Model for Newspaper Segmentation task.
- Creating an Airflow pipeline for the entire solution and automate the runs.

**JAN 2019 – FEB 2020 (GOOGLE COE TEAM)**

**5. Bug Duplicity Tool** /Google & Micron, Bengaluru- Karnataka

**Description:** Project aims to detect the duplicate/similar bugs raised by users. And to analyze the Bug log generated by the system and to figure out the root cause of the bug raised.

**Role:** Data Scientist/Python Developer

**Language:** Python

**Technology & Packages:** NLP, Tkinter, ML, Tensorflow, NLTK, Google Cloud, Rest API

**Responsibilities:**

- Data Analysis using Python Programming (NLTK)
- Developing a NLU Model to make the tool understand the bugs similarities.
- Use of pre trained Model (Universal Sentence Encoder) to gain more insights on the final results
- Deploying the tool to Google Cloud as a Rest API using VM, Docker, Container Registry and Cloud Run.

**6. Spot Welding POC** /Volvo, Bengaluru- Karnataka

**Description:** Analyze the given Data and Developing a ML Model to guide a better job and less errors in spot welding of Cars.

**Role:** Data Analyst/Python Developer

**Language:** Python

**Technology & Packages:** Data Cleaning, Data Analysis, NumPy, Pandas, Matplotlib, Seaborn.

**Responsibilities:**

- Cleaning the given Data and filling the missing values
- Analyzing the Data to fetch appropriate columns.
- Doing Exploratory Data Analysis on the given Data and finding valuable insights.

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## Education

**PG Diploma Coarse in Embedded System Design & Development**

Cranes Varsity,

**July 2018 – Jan 2019**

Bangalore Karnataka IN

**B.E in Electrical and Electronics Engineering**

SIR.M. Visvesvaraya Institute of Technology, VTU

**July 2014 – June 2018**

Bangalore, Karnataka IN

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## Certificates

1. Python for Data Science

2. Statistics for Business Analytics and Data Science

3. Machine learning – Hands on Python in Data Science

4. Deep Learning – Hands on Artificial Neural Network

Udemy

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## Achievements

**Received “STANDING OVATION AWARD” from Digital Engineering IBU Head, Tech Mahindra for my performance in year 2019**

