

# Anoop Karnik Dasika

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## WORK EXPERIENCE

### Software Engineer (Data Engineering) in MpoweredHealth

07/2019 - Present

*The company is building the future of healthcare by connecting consumers and healthcare enterprises.*

- I have designed and implemented a data ingestion pipeline from scratch for partners (Insurance Companies and Health care Organizations) in AWS.
- We use aws s3 to store raw data. We use aws airflow and aws nifi for automating preprocessing, validation and ingestion tasks by scheduling data pipeline. We use aws ec2 instance to create an instance of our fhir database connected to an rds instance to enable elastic search. We use aws iam to create policies, users and user roles for different partners and developers for access related issues. I also created the automated code in python which would make any new partner integration as fast as possible.
- As a lead of a team of 3 people with one data engineer and 2 business analysts, I take care of creating ingestion related epics, stories and tasks and their timelines and assigning them to the team every sprint.

### Graduate Research Intern in IIIT Hyderabad (Bharat Electronics Limited)

11/2019 - 09/2019

- My task was to increase tracking accuracy in their air surveillance software used by Air Force.
- My work published in ICONIP 2020 conference ( [link](#) ) involved designing a real time system which takes inputs from the air force surveillance system and identifies and corrects the errors involved using an ensemble of neural network and xgboost architecture. A 15% increase in accuracy was achieved in the tracking.
- I designed a Simulation application in tkinter python for the air surveillance and worked on udp sockets to make it real time.
- I pitched a POMDP approach, which would determine the level of emergency based on probability of errors identified, location and speed parameters and current level and keep on learning the value function based on what operators action were in real time.

### Machine Learning Intern - AI Care

07/2020 - 11/2020

*Company is designing a chatbot using facebook's open source blender bot and other models for customers with mental health issues.*

- **Emotional Model** - Worked with the team on Sentiment Analysis Model to determine which emotion (anger, peace, sad, happy, etc) a person is feeling in each of his chat message and after a fullsession.
- **Information Retrieval Extraction Model** - Worked independently on getting the user profile information based on the chat messages in the form of triplets by implementing state of the art algorithms which uses bert and memory networks.
- **Engineering** - Worked Independently on giving a persona to our chatbot and storing messages of every session and using these messages in a new session so that our chatbot nelly doesn't lose context and worked with CTO on deploying web app in AWS Lightsail.

### Analyst - Latent View Analytics

09/2015 - 07/2017

- **CRM (Paypal Singapore)** - Structure Marketing Campaigns for the next year based on analysis of campaigns from the previous years and provide insights using tableau dashboards.
- **CRM (Paypal Chennai)** - Stratified Random Sampling (Test/Control, Test/Universal Control) and creating high value merchant model by xgboost algo in python, campaign performance tracking using excel, VBA and several tableau dashboards.
- **Recommender System** ([link](#)) - Single handedly helped in securing a prospective food delivery client by making a sample recommender system using ALS algorithm in pyspark and used flask library for backend and frontend development.
- **Data Premiere League** ([link](#)) - Created a web crawler to fetch all of google play data for organizing a competition for a well-recognized analytics competition using scrapy framework inpython.
- **Sales Prospect Conversion (Daimler Pune)** - Created a tool in excel using VBA which arranges the prospects and old customers based on their chances to take a loan for a big automobile client. Used Logistic Regression of previous prospects to find the top prospects to call for the sales team.

## TECHNICAL SKILLS

- **Machine Learning** - Python (Numpy, Pandas, Sklearn, Pytorch, Tensorflow, Pyspark, Opencv), R, Excel (Advanced, VBA), Tableau, SQL
- **Product Development** - Git, Python (Flask, Django, Tkinter, Falcon, Scrapy), HTML, CSS, Docker, Java Script
- **AWS** - S3, Ec2, Airflow, Nifi, Iam, Rds, Lightsail
- **Miscellaneous** - C, Bash, Linux, Graphic Designing, Video Editing

## COURSES/CERTIFICATIONS

- **Relevant Courses** - Statistical Methods in Artificial Intelligenece, Digital Image Processing, Deep Learning, Computer Vision, Topics in Applied Optimization
- **Certifications** - Machine Learning Specialization (Coursera) ([link](#)), Deep Learning Specialization(Coursera) ([link](#)), CFA (level 1 cleared), Mentored Research - Equity Research Initiative

## PROJECTS

### Multi Agent Reinforcement Learning in Pommerman ([link](#))

- Pommerman is a multiagent game where you use 2 cooperating agents to play against 2 competing agents having partial observations of the environment and communication between cooperating agents.
- We first use the agent provided by them which uses graph algorithms to take an action and make an imitation model for our agents. The infrastructure uses resnet to encode the grid data and lstm for the inclusion of previous timesteps and runs an actor critic model to train. Then we play our agents against different kind of agents and our own agents (curriculum learning) to improve our actor critic model.
- My agent secured 8th rank in NeuroIPS 2019 Pommerman Competition.

### Object Detection without Deep Learning ([link](#))

We use a combination of 4 cues - edge density, multi scale saliency, superpixel and color contrast to find the windows containing objects and then use non max suppression sampling to find the optimal windows and train a naive bayes model with a training set of images.

### Scene Text Detection ([link](#))

We use stroke width transform in an edge map and use connected components to detect text in natural images like sign boards on roads. We then identify the characters using spacing and recognize words in the text using Resnet neural network architecture.

### INDULGE - Social Networking Site For Elderly ([link](#))

Created a Social Networking Site for Elderly using python flask, javascript, html, css, sockets with a teammate with chatrooms, friends, likes, comments, games, etc features as per elderly design and usage requirements.

### ML Hackathons in Analytics Vidhya & AICrowd ([link](#))

Participated in many hackathons containing classification, regression, NLP and computer vision task and secured top 10 ranks in few competitions.

## EDUCATION

### MS in Computer Science

IIIT Hyderabad

CGPA : 8.0

2018 - Present

### B.E.(HONS) IN MECHANICAL

Bits Pilani

CGPA : 7.28

2011 - 2015