ADARSH GADARI

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SUMMARY

Currently, I am a PhD student in computer science at University of North Carolina, Greensboro. My research focuses on developing Artificial Intelligence (AI) algorithms. With an academic background of signal processing, communication and electronics engineering, and a professional experience of 4 years (July 2018 - July 2022) in AI across domains like engineering, medical images (Ophthalmology), medical structured data, health informatics, I would like to develop algorithms that can integrate multi modal data.

EXPERIENCE

Legato Health Technologies

Hyderabad Associate Software Engineer 10/2020 – 07/2022

Health Informatics: Exploratory and statistical data analysis on the legacy data to identify the high-risk groups. Hands-on with the on-premises data connection using Hadoop to retrieve data. Specifically, the focus was to reduce the dimensionality of the data by either creating latent variables or removing non-contributing variables.

Return to Office - Tracking COVID Risk: Developed and deployed a solution to track the COVID cases across cities and states to evaluate the risk in returning to the office. Scheduled triggers to fetch data from government websites, developed the ARIMA model, and pushed predictions - the number of positive cases and number of deaths for the next 14 days.

Ticket Bucketing Using Text Classification: Applied text preprocessing methods like word-to-vector conversion using Gensim library, Term Frequency-Inverse Document Frequency, etc., followed by machine learning models like support vector machines. Saved 100K USD worth of man-hours by classifying the tickets automatically.

Prediction of Sepsis: Identifying the onset of sepsis at least 6 hours prior. Applied recurrent neural networks in combination with Long-Short Term Memory units on the time series natured data.

Emotion Detection: Identifying the emotions from a face as a use case to drive tele-health by artificial intelligence. Developed a solution using convolutional neural networks.

L.V. Prasad Eye Institute

Hyderabad// Research Intern// 08/2019 – 09/2020

Introcular Lens(IOL) Power prediction: Preprocessing the huge biometry data, performed web-scraping to pull the IOL predictions of other formulas. Developed an AI regression model to predict the IOL power and corresponding post operative spherical equivalent refraction. Deployed in the LVPEI Intranet for further validation.

OM 3.0, Pupil Detection: Developed an automated software to detect pupil from an Infra-Red image.

Optical Character Recognition(OCR) for oculyzer images: Developed and trained an OCR to extract eye information from oculyzer images. Performed statistical analysis on the data.

Extracting biometry information from A-scans: Extracted data from a set of 50,000 PDF files with different variations which include missing data, change in the format of the data, etc. Performed statistical analysis on the data and won the best poster award at comprehensive cataract conference, Kolkata 2019

Cyient Insights

Hyderabad// Data Scientist// 07/2018 – 06/2019
Developed a classification model to predict the severity of a failed equipment. Hands-on experience in creating a GUI in python. Conversion of R codes to python. Prepared dashboards in Tableau.

RESEARCH LABS

- Infinite Family of Feature Space - Machine Learning (IFFS-ML) - Prof. Shan Suthaharan (2022-present)
- Immersive Multimedia Technology (IMT) - Prof. Soumya Jana (2016-2018)

EDUCATION

University of North Carolina at Greensboro
Doctor of Philosophy 2022
Department of Computer Science.
Current research focuses on computational ophthalmology which includes parametrization, finding feature space, and Machine learning.

Indian Institute of Technology Hyderabad
M.Tech// 2016 – 2018
8.1/10 GPA
Communication and Signal Processing, Dept. of Electrical Engineering

M.V.S.R Engineering College
B.E// 2011 – 2015
Electronics and Communication Engineering

PUBLICATIONS

Gadari Adarsh, Chandra Bollepalli S, Ibrahim MN, Jose´-Alain S, Chhablani J, Suthaharan S, Kumar Vupparaboina K. Robust Retinal Layer Segmentation Using OCT B-Scans: A Novel Approach Based on Pix2Pix Generative Adversarial Network. InProceedings of the 14th ACM International Conference on Bioinformatics, Computational Biology, and Health Informatics 2023 Sep 3 (pp. 1-6).

Gadari Adarsh, Chandra Bollepalli S, Ibrahim MN, Jose´-Alain S, Chhablani J, Suthaharan S, Kumar Vupparaboina K. Retinal sublayer segmentation based on deep learning using optical coherence tomography B-Scans: Training multilayer masks vs boundary labels**(Accepted for ARVO 2024, May 5-9)**

PROGRAMMING SKILLS

◦ PYTHON ◦ C ◦ C++ ◦ MATLAB

ARTIFICIAL INTELLIGENCE CONCEPTS AND TOOLS

◦ Deep Learning ◦ Pretrained models ◦ Residual Networks ◦ Transformers ◦ Attention mechanism ◦ Regression ◦ Classification ◦ Supervised Learning ◦ Unsupervised Learning ◦ Time series Analysis ◦ Tensorflow ◦ Keras ◦ Scikit-Learn ◦ OpenCV ◦ Nltk ◦ Numpy ◦ Pandas ◦ Matplotlib ◦ Tableau ◦ Git - Github - Bit bucket ◦ VsCode ◦ Docker ◦ Jenkins

TECHNICAL PROFICIENCY

◦ Machine Learning ◦ Image Processing ◦ Signal Processing ◦ Information Theory ◦ Probability and Random Process

ACHIEVEMENTS AND VOLUNTEERING

◦ Third Prize in Arch MI Data Dive competition held in association with a Non-Profit organization.
◦ Consolation prize at Legato Techathon for developing automatic sign language detection using AI.
◦ Recognized by the team at Legato with for proactively proposing solutions to make tele-health AI powered.
◦ Won best poster award at Cornea conference, Kolkata -2019.
◦ GATE rank 5620 of 172714.
◦ Volunteered to Integrated Household Survey conducted by the Government of Telangana.