KIRANDEVRAJ

DATA SCIENTIST · VERISK ANALYTICS · MS BY RESEARCH · CVIT

Hyderabad, India

✉ aadrkirandevraj@gmail.com | Kirandevraj | kirandevraj-radhakrishnan

Work Experience

Verisk Analytics
Hyderabad

DATA SCIENTIST I
Jun. 2022 - Present

- Experimented and Developed various text models using NLP techniques. The task involves validating and integrating data from different data sources; predicting services provided by various insurance businesses.
- Experimented and Deployed various Image Modelling methods (CLIP, BLIP, ViT, Detectron) to predict services based on the images obtained from the insurance businesses.

Wipro
Bangalore, India

ASSOCIATE DEVELOPER
Oct. 2017 - Jan. 2019

- Worked on SAP software to provide Enterprise Resource Planning service to Marathon Petroleum Corporation.
- Used SAP Advanced Business Application Programming(ABAP) language to develop and debug functionalities requested by clients from B2B division.

Education

International Institute of Information Technology, Hyderabad(IIIT-H)
Hyderabad, India

M.S. BY RESEARCH IN COMPUTER SCIENCE AND ENGINEERING
Aug. 2019 - May. 2022

- **CGPA: 8.5**
- Courses Completed: Statistical Methods in AI, Digital Image Processing, Speech Technology, Computer Vision, Intro to Cognitive Science, Data Systems.

Valliammai Engineering College, Anna University
Chennai, India

B.E. IN COMPUTER SCIENCE AND ENGINEERING
Aug. 2013 - Jun, 2017

- **CGPA: 7.35**
- Courses Completed: Data Structures, DBMS, Computer Architecture, OS, Computer Networks, Software Engineerng, Internet Programming, Distributed Systems.

Publications

Generalized Keyword Spotting using ASR embeddings

INTERSPEECH 2022
Sep. 2022

- Published our research work titled "Generalized Keyword Spotting using ASR embeddings" in **INTERSPEECH 2022** conference as part of **oral presentation**. This work is focused on open-vocabulary Audio Keyword Spotting [paper link] [code link].
- Authors: **Kirandevraj R**, Prof. Vinod Kumar Kurmi, Prof. Vinay Namboodiri, Prof. C.V. Jawahar

Academic Research

Center for Visual Information Technology, IIIT-Hyderabad
Hyderabad, India

RESEARCH ASSISTANT (MS BY RESEARCH)
Aug. 2019 - May. 2022

- We are working on Multimodal open vocabulary video retrieval where we use both audio and video modality to retrieve videos of similar tasks.
- Submitted my MS thesis titled "Audio Keyword Spotting with Low resource language Adaptation".
- Also Conducted distillation experiments to reduce the size of the model to make the system run in low resource language as part of my Thesis.
- My interests are Computer Vision and Multimodal (Audio, Video and Text) deep learning.
- Developed and Debugged tensorflow and pytorch codes for baseline implementation and for our research project.
- Involved in CVIT study groups and active discussions in research topics in our the lab.

Center for Visual Information Technology, IIIT-Hyderabad
Hyderabad, India

RESEARCH INTERN
Jan. 2019 - Jul. 2019

- Developed an audio-based news retrieval web application using Automatic Speech Recognition(ASR) and Text-to-Speech(TTS) systems.
- Trained ASR and TTS for English and Tamil languages. And developed web crawler to generate dataset for Natural Language Processing Machine Translation task.

Internships

Verisk Analytics *Hyderabad*

DATA SCIENTIST INTERN *Jun. 2022 - Present*

- Adapting WavLM ASR model to work on audio conversations in insurance business. Worked on building n-gram Language Model and transformer based Language Model to improve the decoding of the ASR predictions.

TA - Post Graduate Certificate in Software Engineering for Data Science, IIIT-Hyderabad *Hyderabad, India*

TEACHING ASSISTANT *Jun. 2021 - Sep. 2021*

- Conducted TA sessions on Machine Learning(Supervised, Unsupervised, NLP) and Big data technologies(Hadoop, Spark, Hive, Kafka).
- Created and evaluated assignments for topics related to Data Science and Software Engineering.
- Conducted hackathons and created solutions for hackathons and assignments.

Summer Of Bitcoin *Online*

INTERN *Jun. 2021 - Sep. 2021*

- Worked on Bitcoin Open Source Contribution mentored by Sjors Provoost.
- Learnt the functioning of Bitcoin, Analyzed the Descriptor wallet's performance and bottlenecks.
- Tested and reviewed Pull Requests and the latest release version using cloud services. Documented an issue and proposed a possible implementation.

Select Semester Projects

Friend Blend *IIIT-H*

DIGITAL IMAGE PROCESSING *Aug. 2019 - Dec. 2019*

- Implemented research paper titled "FriendBlend" in python.
- Blends two images with a person standing in the same background into a single image with the two people on the same background.

Handwritten Word Spotting with Corrected Attributes *IIIT-H*

COMPUTER VISION *Jan. 2020 - Apr. 2020*

- Implemented the paper "Handwritten Word Spotting with Corrected Attributes", ICCV 2013 in python as part of the semester project.
- In a dataset of images containing handwritten words, with each image containing one word, the code retrieves images that contains the same word as user's query text or image.
- Uses various Gaussian distributions on SIFT features to represent and retrieve images.

RDBMS *IIIT-H*

DATA SYSTEMS *Aug. 2020 - Dec. 2020*

- Built a basic Relational Database Management with few operations.
- Implemented operations: Indexing through B-trees and linear hashing; Find, Insert, Delete and sorting operations using these indexing operations.
- Non Assignment statements such as load, list, print, rename, export, clear, quit; Assignment statements such as cross, projection, selection, distinct and join were also implemented using C++. Few of my implemented operations were fastest in my class.

E-Commerce Website *VEC, Anna University*

B.E. CSE *Jan. 2017 - Apr. 2017*

- Developed E-Commerce website to sell music textbooks and videos.
- User has to login, select items, checkout and pay to buy a digital content.
- Bought a domain name and domain space and hosted the website.
- Payment is connected through paypal digital payment gateway.

Extracurricular Activity

Project Sitara Akka *Online*

TEACHER INSTRUCTION KIT CURATOR *Jul. 2022 - Dec. 2022*

- Created activities to help visually challenged kids from grade 8 to grade 10 understand text book concepts.
- Worked with teams on weekly basis to constantly innovate and improve these activities to help the kids.

Inter College Sports Tournament *Hyderabad*

SPORTS PARTICIPATION *Jan. 2021 - May. 2022*

- Have received runners-up in Basketball and Volleyball Monsoon 2021 sports tournament.
- Been an active participant in Football and Table Tennis sports as well.