Asapanna Rakesh (website / blog / projects: INF800.GITHUB.IO)

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Experience

GENESYS INTERNATIONAL CORPORATION LTD

Mumbai, IN-MH

Sr. Research Engineer (Geo-spatial Domain)

Jan 2021 - Current

- Built system for extraction of **3D street digital assets** from 2D panoramic images for **India 5cm accuracy** (tested in Jaipur, Pune & Mumbai) To be run on **thousands of kilometers** in **top 100 Indian cities •** Algorithms with **advanced images processing algorithms, linear algebra & trigonometry.**
- Automated hoarding board information extraction using novel techniques leading to 2 patents.
- Optimized latency of high-resolution 360deg image using multiresolution format for thousands of kilometers. Demonstrated with PoC for the sustainability of the tool for google-streetview like product WoNoBo.
- Built pipelines for 2D images and 3D LiDAR data annotation with both client side and server side architecture using WebGL, microservices, Redis, IndexDB, MongoDB etc. to be used by the entire data annotation team.
- Interviewed and hired a major portion of the ML team Built multiple inhouse tools (can discuss over call)

UFF - FOOD FOR YOU PVT LTD

Manali, IN-HP

Director & C-Level Executive (Food Tourism Domain)

Nov 2021 - Current

- Lead the engineering team (Flutter & FARM stack) and designed & implemented scalable databases.
- Implemented **novel recommendation algorithm** for user-user and user-item taste preferences.

CREATE JOY TECHNOLOGIES

Bangalore, IN-KA

Machine Learning Engineer (Video Tech Domain)

Mar 2021 - Nov 2021

- Created novel & optimized **O(n)** algorithm for motion detection & deployed in production environment (client side) for **video-tech** platform. Used by **thousands** of children over video call.
- Built motion capture from monocular video cues (PoC). Worked on optimizing client side performance using service workers and WebGL.
- Implemented **gesture recognition**. Built & **gamified data annotation platform** to collect data from children.

IREADRX.AI Bangalore, IN-KA

NLP Engineer (Life sciences Domain)

Mar 2021 - Jul 2021

- Worked on **PDF** analytics and bioassay detection from patent documents using topic modeling, semi-supervised learning, AutoML and weak supervision Lead to company's funding from clients.
- Extracted **compound structure information (mol files)** from markush diagrams in PDF documents using image processing techniques (outperforming deep learning) **optimized source code using Java.**

LOGITECH INTERNATIONAL

Chennai, IN-TN

Engineer Intern (Bluetooth Low Energy Domain)

Jan 2020 - Mar 2020

- Developed prototype of **generic tool & algorithm** to validate over the air **Bluetooth Low Energy Logs** and render sequence diagrams via web-based UI Grew into a **widely used tool in BLE Team.**
- Implemented dynamic programing algorithms with reusable codebase & cython optimisation.

NEWGEN IEDC - AKC RESEARCH LAB

Chennai, IN-TN Jan 2019 – Jan 2020

Co-Founder & Computer Vision Developer (Agri-tech Domain)

- Successfully secured funds from MHRD, India. Invited to Google office, Hyderabad for funding.
- Worked on **Edge ML** (various devices and optimisations) to detect & dispel wild animals in farm lands.

Skills

Programming: Advanced Python3, Javascript. Handle projects wrt Swift, Java, Julia, Dart, C++ & SQL

Deeplearning: Tensorflow, Pytorch, JAX • AutoML • Fast.ai, Detectron2, HuggingFace, Open3D-ML • SOTA models **Frontend:** React, Steamlit, WebGL, Flutter **Backend:** Node, Django, FastAPI **DB:** MongoDB, Postgres, Kafka, Elastic **Cloud / DevOps:** AWS, GCP, Docker, Kubernetes, IaC, Microservices, Distributed Ray.io, Github Actions, Jenkins. **EdgeML, IoT and others:** Nvidia Jetson Nano, Raspberry Pi variants, Bluetooth Low Energy, nmap & cybersecurity.

Education

Dr. MGR EDUCATIONAL & RESEARCH INSTITUTE

Chennai, IN-TN 2017-2021

Bachelor of Technology in Computer Science and Engineering • Member of Computer Society of India **KENDRIYA VIDYALAYA**

Kochi, IN-KL

AISSE CGPA 9.8 • 97 of 100 in computer science with C++ in the AISSCE board examination.

2017