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
Co-Founder & Computer Vision Developer *(Agri-tech Domain)* Jan 2019 – Jan 2020
- 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
Bachelor of Technology in Computer Science and Engineering • Member of Computer Society of India 2017-2021
KENDRIYA VIDYALAYA Kochi, IN-KL
AISSE CGPA **9.8** • **97 of 100** in computer science with **C++** in the AISSCE board examination. 2017