**Asapanna Rakesh**

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**EXPERIENCE**



**GENESYS INTERNATIONAL CORP: Senior Research Engineer** **Mumbai** Jan 2021

• Automated workload of **2000** employees using **machine learning pipelines** for foreign and domestic data

• Implemented algorithm for **geo-referencing** each pixel of **2D RGB image to it’s 3D point projection** in LiDAR data

• Worked on **3d town planning in jaipur, thane and pune** region for **thousands of kilometers** of street-view data

• Built pipelines & models for **aerial and drone imagery for mumbai** projects like building footprint, road, tree canopy **segmentation**

• Worked on **multi-object-tracking** for **triangulation** on street view data using SOTA open source implementations (**custom datasets**)

• Worked on **optimized** **zero-shot depth detection** with intel-midas for drone **navigation** and **asset depth detection**

• Built **models for LiDAR point clouds** and integrated them with intel **Open3D-ML data-processing & visualisation** toolkit

• Worked on **automatic foreground removal for high resolution images** using LaMa from samsung research

• Built models and algorithms for **multiple** **telecom tower panel segmentation, key-point detection, measurement and rust detection**

• Built multistage in-house **OCR** **models** for **shop hoarding** and **house number plate** text detection and recognition **(hindi and english)**

• Implemented **licence plate blurring and face blurring** solution for **thousands of kilometers.**

• Engineered in-house tool for annotation of **LiDAR** point clouds using **WebGL and python microservices with Flask and FastAPI**

• Engineered in-house tool for annotation of raster data using **QGIS open-source application**

• Engineered in-house tool for **interconversion of different data formats** - LiDAR and raster data.

• Built PoC for **viewing and navigating through high resolution panoramic images** using panellum

• Build models for **roof-top asset detection** like water tanks and antennas for mumbai region

**CREATE JOY TECHNOLOGIES (CREJO.FUN): Machine Learning Engineer Bangalore** Mar 2021

• Implemented light-weight **optimized algorithm O(n) for motion detection** in video chat applications and **worked with service workers**

• Built **client side models in tensorflow.js** for gesture recognition, voice command recognition, pose correction and BG removal

• Implemented ML powered **dynamic augmented reality face mask using WebGL** and tensorflow.js **from scratch**

• Implemented **motion capture** from 2D RGB webcam stream to **control 3D avatar** using WebGL and 3D posenet

**IREADRX.AI: NLP Engineer Bangalore** Mar 2021

• Worked on **PDF analytics and bioassay detection** from patent documents using topic modelling, semi-supervised learning and AutoML

• Extracted mol files **(structure information) from 2d-image of markush structures** in PDF file pages using **Java**

**OPTISOL BUSINESS SOLUTIONS: Data Analyst** **Coimbatore** Dec 2020

**•** Built end-to-end gesture recognition system with **only 7 data samples** using state-of-the-art one shot learning techniques

**•** Worked with **Mediapipe, Blazepose, TFLite,** and **Pytorch**

• Implemented siamese networks with different custom loss functions, matching networks, prototype networks, online learning etc

**LOGITECH INTERNATIONAL S.A: Product Engineer Intern** **Chennai** Jan 2020

**•** Developed prototype for generic tool/algorithm to validate over the air **Bluetooth Low Energy logs** for Ellysis and **render sequence**

**diagrams** through web UI and **Flask microservice**.

**•** Implemented **dynamic programming** algorithms with reusable code base. Cython for **optimisation** and faster processing.

**•** Solved **architecture and design** problems and UX problems under the guidance of experienced team members

**NEWGEN IEDC**: **Incubatee & Computer Vision Developer** **Chennai** Jan 2019

**•** Successfully demonstrated and **secured funds from MHRD** India - A.I Research for Primary Sector.

**•** Worked with **edge devices** like Raspberry Pi, Jetson Nano, microcontrollers and drones

**•** Implemented various SOTA Based CNN architectures using Tensorflow with **quantisation and TensorRT optimisation**

**TALENT ACCURATE: Frontend Developer Intern Ontario, Canada** Jun 2018

**•** Worked with **AngularJS** and chrome extensions. Designed web pages with pure CSS

**•** Stack included AngularJS, HTML5, CSS and Vanilla JavaScript

**EDUCATION**



**Dr. MGR Educational And Research Institute**  **Maduravoyal, Chennai** July 2017

**•** Candidate for Bachelor of Technology degree in Computer Science and Engineering

**•** Aggregate CGPA of **8.0** **•** Co-Founded MGR Coding Club **•** Member of Computer Society of India

**Kendriya Vidyalaya NAD Aluva**  **Kochi, Kerala,** 2014

**•** AISSE CGPA **9.8** and Senior AISSCE CGPA **92%** in Sciences **•** Secured **97 out of 100 in C++** AISSCE Board Examination