Tamil Selvan

Machine Learning Engineer

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# Summary

Experienced AI/ML engineer & Crypto Enthusiast who has a proven record of AI/ML-based model deployment and Dashboard integration for product and as a service. Recognized for the ability to construct a product with strong technical expertise, architect, and code service based & POC projects with quick turnaround time. Currently, learning core block chain and smart contracts with Solidity on Ethereum native network.

# Skills

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| * Python * Computer Vision & Image Processing * Docker * Deep Learning * TensorFlow and Keras * Scikit-Learn, Flair and PyCaret * NumPy * Aerial Image Processing * Naturel Langauge Proessing(NLP) | * Qgis * Open3D * SQL * Data Analytics & Data Visualization * Matplotlib * AWS SQS * ETL Process & MSSQL * Linux (Ubuntu) server * Digital Signal Processing(DSP) |

Experience

**Machine Learning Engineer** - 01/2021 to Present **(1 year)** [**The Alacer Group**,](https://www.alacergroup.com/) Bangalore, India

* Built the [Entity Resolution](https://velocity.alacergroup.com/velocity-entity-resolution/) Module with **96%** accuracy that can crunch **1 million** Customer & Transaction Data per day that can generate a relationship between multiple entities.
* Handle production-level issues and code review for deployments
* Built a model for Predicting **Money laundering** using the [customer transaction](https://www.linkedin.com/posts/velocity-fincrime-solutions-suite_velocity-entity-resolution-activity-6803726470142394368-hktl) behavioral analysis and the network analysis with other transactions
* Developing a [cryptocurrency AML](https://velocity.alacergroup.com/aml-risk-management-platform-for-digital-currency/) module that can relate the blockchain transactions, address to real customer entity for the Banks and **Crypto-related Transactions** Flagging module with a help of search key tags using custom built **word2vec** model.
* Build NLP based [Address parser](https://velocity.alacergroup.com/velocity-country-resolution/) CRF model with **92%** accuracy that can parse the global address into a city, state, zip and Country
* Worked on **AI-Enabled ETL** on Transaction Monitoring & Data Normalization enhancements
* Process Design, Reengineering, and Optimization with ML modules
* Multiple **ML plugins** are built & deployed within the product which is a part of the production pipeline.

**Lead Programmer**- 08/2018 to 12/2020 **(2.4 Years)**

[**Datasee.AI**](https://datasee.ai/) (formerly Takvaviya Analytics Private Limited)**,** Chennai, India

* Coded & built the entire **data analytics for COVID19** contact tracing-Analytics Dashboard for [Coolpad's Proximity Tracking Device](https://coolpad.us/bubble-contact-tracing-device/)
* Architected and built more than 5 projects and 2 R&D solutions
* Delivered more than **3 POC 's** within weeks of timeline
* Trained & Deployed **Mask RCNN** model to segment the v3 Stage- **Sweetcorn** plants from the soil to detect the gaps between the row of crops which are not germinated (**Resnet50 backbone)**
* Built Keras RetinaNet object detection model for Solar Farm Construction Progress monitoring to detect 6 classes of construction features
* Developed multi-stage computer vision pipelines using image processing & logical techniques for large scale aerial imagery system with global projection systems
* **Automated & Reduce 80%** of **workforce** & time involved in the remote sensing-based production pipeline which has manual operation timeline of 9 days to automated turnaround time of 6 hours.

# Education

* Master of Science: **Robotics and Automation**- 2017

[**University of Salford**](https://www.salford.ac.uk/), Greater Manchester, UK

* Master of Science: **Electronics**- 2016

[**VIT University**](https://vit.ac.in/), Vellore, India

* Bachelor of Science: **Physics**- 2014

[**Loyola College**](https://www.loyolacollege.edu/) **(Autonomous)**, Chennai, India

# Certifications

## Certified Data Scientist

The International Association of Business Analytics Certification **(**[**IABAC™**](https://drive.google.com/file/d/1jBX3tC2JiC354W3pRCQfq0y8ak9DzqwV/view)**)**

## Image Processing & Computer Vision

Technology Information Forecasting and Assessment Council **(**[**TIFAC**](https://www.dropbox.com/s/f7ruzib7nqg8mco/DIP%20TIFAC%20CORE.JPG?dl=0)**)**

## ARM microcontrollers

Technology Information Forecasting and Assessment Council **(**[**TIFAC**](https://www.dropbox.com/s/ozdin6a85yf2kjd/ARM%20TIFAC%20CORE.JPG?dl=0)**)**

# Personal & Collaborative Projects

* [edaSQL](https://github.com/selva221724/edaSQL) : Open-Source Python Package for SQL Bridge to Exploratory Data Analysis
* [dummylog](https://github.com/selva221724/dummylog) : Open-Source Python Package to help the python module/plugin developers to create/update the log files in simple syntax and easy format
* [pypostalwin:](https://github.com/selva221724/pypostalwin) Un-Official Python Package for libpostal, a fast statistical parser/normalizer for street addresses anywhere in the world.
* [COVID19:](https://github.com/selva221724/COVID19-Automatic-Biomedical-Document-Summarisation-Using-Disease-Specific-Text-Corpora) A Novel Automatic Summarization of Biomedical Documents Using Disease-Specific Text Corpora
* [Electric Vehicle's Charge Event Detection](https://github.com/selva221724/EVD_smart_meter) using Smart Meter Data with 1D CNN (LSTM and GRU)

# Achievements

## Employee of the Year - 2018

Datasee.ai (formerly Takvaviya Analytics Private Limited) Chennai

## Students Union Secretory (2013 – 2014)

Loyola Students Union, Chennai

# Medium Articles

* How your life will be in [**MetaVerse**](https://medium.com/%40selva221724/how-your-life-will-be-in-metaverse-ebb47525b39c)
* How to create a log in python using [**dummylog**](https://medium.com/%40selva221724/how-to-create-a-log-in-python-using-dummylog-5705801a642)
* Exploratory Data Analysis on SQL using python **(**[**edaSQL**](https://medium.com/%40selva221724/exploratory-data-analysis-on-sql-using-python-edasql-1d87e35c5ba9)**)**

# Languages

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| English (Full Professional Proficiency) | Tamil (Native Proficiency) |