

# Malvika Ranjitsinh Jadhav

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**Programming:** Data Structures, Algorithms, C++, Python, Julia, R, F#, JavaScript, CSS, HTML, Java

**Software Tools and Platforms:** Git, Jira, PyCharm, VS Code, Eclipse, Linux, Tableau, R-studio, MS-Office, Terraform

**Database:** MongoDB, SQL, MySQL, ETL, AWS

## Work Experience

**Research Assistant**, *Computer and Information Science Department, UF, Gainesville, FL.* Aug 2022 – Present

- Working on use of Generative models for Identity and data protection from android Stalkerware apps
- Tools and Technologies: HiperGator Jupyterhub notebook, Android Studio

**Summer Researcher**, *UF Health Medical Physics Research, Gainesville, FL.* May 2022 – Aug 2022

**Project: Future frame prediction of Cine-MR Images with deep learning**

- Tuned a ConvLSTM model for future frame prediction using Gradient Magnitude Similarity deviation metric that **increased model performance by 20%**
- Modelled and tuned a retrospective Cyclic Generative Adversarial Network(GAN) architecture for next frame prediction on 2D Cine-MR image dataset to attain **ssim value above 0.8**
- Tools and Technologies: Pytorch, HiperGator Jupyterhub notebook, MONAI

**Associate Software Engineer**, *FIGmd Solutions, Inc. US Healthcare, Pune, India.* Oct 2020 – Apr 2021

- Worked as DBA for inhouse-registry POLARIS, built efficient and robust Data Pipelines, ETL Packaging
- Analyzed client data on Big Query and automated extraction of Centers for Medicare and Medicaid Services (CMS) data metrics
- Tools and Technologies: Python, SQL Server, T-SQL, Big Query, Tableau, and Microsoft Excel

**Research Assistant**, *Pune Institute of Computer Technology, India.* May 2016 – Aug 2017

- Performed comparative analysis of models such as CNN, R-CNN, Yolo (You Only Look Once) for number plate detection
- Tools and Technologies: Python, TensorFlow, Keras, Deep Learning, and Jupyter notebook

## Projects

**Analysis of Failed booking of a Taxi Service** Jan 2023 – Mar 2023

- Identified the category with the highest number of failed orders, analyzed patterns of failure by hour
- Performed geospatial analysis to determine areas with majority (above **80%**) bookings by hours of day and represented them by their hex location indexes using H3
- Utilized: Python, Folium, H3, Pandas, Geojson

**Countering Membership Inference attacks (MIA)- A ML unlearning application** Aug 2021 – Dec 2021

- Modelled and tuned Resnet-50 convolutional neural network (CNN) on data shards obtained by Sharded, Isolated, Sliced, and Aggregated training (SISA) for Machine Unlearning to **reduce efficacy of MIA to 52%**
- Utilized: Python, Keras, TensorFlow, CIFAR-10, SISA

**Twitter Clone – Software Engineering Project** Aug 2021 – Dec 2021

- Developed a web-based Twitter clone that allows users to register, follow, tweet, retweet, and query
- Designed RESTful backend server using F# enabling tweets and user data to be stored persistently in offline SQLite database
- Utilized: F#, HTML, CSS, JavaScript, Suave, Dapper, SQLite

**Detection of COVID 19 Infection** Apr 2021 – July 2021

- Implemented the CNN, ResNet-18 models on the COVID-19 Radiography dataset to predict one of three classes – Normal, Viral Pneumonia, and COVID-19
- Created custom DataLoader and used cross-entropy loss along with Adam optimizer to attain final **accuracy of 96.3%**
- Utilized: PyTorch, Python, Keras, Jupyter Notebook

## Education

**Master of Science in Computer Science (GPA: 3.72)** Aug 2021 – Apr 2023

The University of Florida, Gainesville, USA.

Coursework: Machine Learning, Applied Machine Learning, Trustworthy Machine Learning, Mathematics for Intelligent Systems, Distributed Systems, Algorithms

**Post-Graduate Diploma (PGD) in Data Analytics** Mar 2019 – Feb 2020

Imarticus Learning technology Institute, Pune, India.

Coursework: Advanced Analytics, Machine Learning, SAS, Hadoop, Data Visualization

**Bachelor of Engineering (BE) in Computer Science** June 2014 – Aug 2018

Pune Institute of Computer Technology, India.