

## EDUCATION

Cornell University, New York, NY

May 2023

*M.S in Information Systems and Applied Information Science*

GPA- 3.92

**Relevant Coursework:** Machine Learning Engineering, Deep Learning, Computer Vision, Designing Data Products, Applications of Algorithms, Startup Systems, HCI

National Institute of Technology Karnataka, India

May 2013

*Bachelor of Technology in Electrical and Electronics Engineering*

GPA- 3.71

## SKILLS

- **Programming:** Python, R, MATLAB, SQL, C/C++, C#, Java, JavaScript
- **Machine Learning:** Regression, Classification, Neural Networks, Time series analysis, H2O, sklearn, Tensorflow, PyTorch, DataBricks, MLFlow, xgboost, Keras, Caffe
- **Engineering Tools:** PySpark, Scala, AWS, GCP, GIT, Hadoop, Flask, RestAPI, numba-njit, Cuda, Kafka, MongoDB

## PROFESSIONAL EXPERIENCE

Senior Machine Learning Engineer, Skinlens, India

Jul '19 to Apr '21

*Technical Head for a early stage Computer Vision prognosis tool for Skin Lesion Detection*

- Collaborated with Dermatologists across multiple hospitals to **create a novel dermatology dataset which include high quality images and demographic data for 5000 patients** by implementing source connectors for RedShift and Kafka JDBC for automating the data collection pipeline
- Designed Computer Vision ETL pipeline by converting RGB images to binary & used the intensity difference and created a n-point estimation to create a boundary layer and extract features from images
- Automated data annotation pipeline for pixel level labeling using bounding box. **Reduced the time by 90%**
- Utilized PyTorch's detectron-2 for panoptic segmentation to extract pertinent features and Designed a multilayered CNN to **Classify diseases on par with dermatologists for 7 skin conditions with an accuracy of 93%**
- Deployed model using AWS Sagemaker, EC2 instance for real time predictions through Rest API's

Co-Founder, Eunoiaa, India

Jul '20 to June '21

*Technical head for mental wellness app for adolescent children in India*

- **Led interdisciplinary team** of 2 Software engineers, 1 UX engineer, 1 Product Manager to develop a mental wellness monitoring platform.
- Designed a quantifiable Mental Health risk assessment classification algorithm using DSM-5 framework to classify the students risks levels 5 mental health conditions on par with psychologists with an **accuracy of 87%**
- Conducted a comparison study on the performance of 8 classification algorithms to gain actionable insights on the statistical significance of the different features and models through p-test and t- test.
- Implemented a Gradient Boost Regression Tree model to predict the BPRS between clinician visits using the passive data to reduce overfitting and sensitivity to outlier data
- Co-ordinated with the engineering team to architect CI/CD pipelines to operationalize the ML models on AWS using EC2, Sagemaker. **Reduced the Model Deployment time by 40%**

Software Engineer, Mobi2fun , Bangalore, India

May '15 to Mar '17

*Software Engineer at mobile entertainment startup in India & spearheaded their AR/VR gaming division*

- Led the development team for a complete game development cycle of around 4 games for almost 15 sprints
- Wrote C# scripts in Unity to develop a user interface for designing game environments and character interactions. **Increased DAU usage time by 43%**
- Developed scripts to automate testing process & mentored Juniors by launching Inclusive Code Review culture. Reduced Knowledge Transfer time by 60%
- Introduced Agile Practices like Unit Tests, TDD. **Reduced average product development time by 48%**
- Liased with cross functional teams during the idea generation phase and helped in crafting CUJs. **Improved user engagement by 30%**

Computer Vision Research Associate, IISc , Bangalore, India

May '14 to Mar '15

- Designed the hardware setup for image collection leveraging on epipolar geometry and created depth maps and 3D meshes for the reconstructed images
- Automated the Computer Vision ETL pipeline to **improve the data aggregation efficiency by 43%**
- Implemented the 3D sparse reconstruction algorithm on Xilinx Generator with an **accuracy of 98.2% and time efficiency of 4.8ms**

## ACADEMIC PROJECTS

Personalized diabetes management using biological markers

Sept'21 to Nov'21

- Conducted exploratory data analysis and developed dashboards for data visualization for a dataset containing demographic data and medical history of around 1000 patients to provide actionable insights to the business team
- Designed a hybrid ML model to improve the accuracy of prediction to **84%** by maximizing the specificity of the model to reduce the number of false negatives

Implementation of Minitorch

Sept' 21 to Dec'21

- Implemented PyTorch's tensors framework and operations using functional programming and improved the efficiency of the model training using GPU programming. **Improved the computational processing efficiency by 60%**
- Conducted the above framework on MNIST dataset and for sentiment analysis and reduced average prediction time of the CNN by approximately **10 times**