Vaishnavi **Khindkar**

Data Analyst · Barclays

(+91) 7820945890 | vkhindkar@gmail.com | vaishnvi | vaishnavi-khindkar

Summary

Being a hard worker with a positive and never give up attitude and with deep interest in field of Computer Vision and Deep Learning, I aspire to develop effective and intelligent solutions and contribute towards betterment of the society.

Education

SPPU (Savitribai Phule Pune University) *78.43%*

B.E. in Computer Engineering *Mar. 2015 - Aug. 2018*

NMV Jr. College Pune *74.5%*

HSC *Mar. 2013 - Aug. 2014*

KSDSV (Shanbhag Vidyalaya) *95.09%*

SSC *Mar. 2003 - Aug. 2012*

Publications

Inventor : Khindkar, Vaishnavi M. **An efficient and scalable architecture for underwater plastic detection and cleaning using Underwater Autonomous Vehicle (AUV) and CycleGans as Data Augmentation technique to convert in air plastic to underwater style.**
Patent No : *202021028978*

Author : Khindkar, Vaishnavi M. **IOT BASED SMART HOME USING FACE RECOGNITION.** *International Journal of Creative Research Thoughts (IJCRT).* Feb 2018. ISSN:2320-2882, Volume.6, Issue 1, Page No pp.321-326. Publication : http://www.ijcrt.org/papers/IJCRT1802045.pdf

Research and Projects

CycleGans as Data Augmentation for Underwater Plastic Detection and Cleaning *Apr. 2020 - Present*

Computer Vision, Artificial Intelligence, CycleGANs

- I am currently working on this research project right from collecting and creating dataset from scratch as there's no dataset readily available on internet for this problem statement
- Also I am trying to implement my idea of using cyclegans as Data Augmentation technique to convert in air plastic to underwater style for underwater plastic detection. Different algorithms like Faster RCNN or YOLO/SSD can be compared for efficiency on dataset.

Underwater Plastic Cleaning using an AUV *Aug. 2019 - Feb. 2020*

Computer Vision, Artificial Intelligence, IoT, Sonar Navigation

- An underwater autonomous vehicle capable of detecting underwater garbage using Image Processing and Keras
- The designed machine would be able to detect the plastic, calculate distance using sonar and OpenCV and then collect the detected garbage using Robotic Arm.
- The collected garbage would be compressed in a compressor attached and would be collected in an attached net.

Multiclass Image classication on UC-Merced LandUse Dataset *Sep. 2019 - Dec 2019*

Machine Learning, Computer Vision, DCT, LBP, Fusion of CNNs

- This project aims at classification of remote sensing image dataset.
- The model developed for classification is a fusion model of spatial features with dct features.3-layer fusion model of cnn is used with dct and lbp to improve the accuracy of prediction.

Wheat Head Detection (Kaggle Competition) *May. 2020 - Present*

Object Detection, FasterRCNNs, EfficientDet by Google

- Working on Kaggle competition for Wheat Head Detection using Faster RCNN and different augmentation techniques for object detection.
- Also recently came to an amazing paper by Google for EfficientDet which clearly shows the importance of scalability in deep learning by amazing performance of architecture of EfficientDet both in terms of efficiency and accuracy. Implementing that idea on this dataset with WBF (Weighted boxes Fusion) for model ensembles improves accuracy a lot..

Aspect Based Sentiment Analysis on NPS survey data for Retail Online Banking *Oct. 2019 - Dec. 2019*

Natural Language Processing, Machine Learning

- Implemented an aspect based Sentiment Analysis on NPS (Net Performer Score) Survey Data for Retail Online Banking Platform to understand reviews of customers on Online Banking features like Payments or Homepage etc.
- Also created a Dashboard in AngularJs to display visualisations on sentiments of Customers for different features.It helped in analysing what improvements can be done by analysing the negative reviews for the particular features.

IOT based Smart Home using Face Recognition *Aug. 2017 - Feb. 2018*

Machine Learning, Image Processing, IoT

- This project provides controlling and monitoring of home appliances as well as provides security from unknown persons.
- We proposed a system for Smart Home Automation technique. To design this system, we used a Raspberry Pi module and Computer Vision techniques, OpenCV and image processing algorithms.

Artificial Neural Network Optimization using Genetic Algorithm *Apr. 2020 - May 2020*

ANN, GENETIC ALGORITHM

- Optimization of ANN using Genetic Algorithm.Weights were updated using GA.
- We used the optimized ANN to classify fruits using Fruits360 dataset.The images were converted into HSV and then used for training purpose.

Breast Cancer Classification on Wisconsin (Diagnostic) Dataset using ML *Mar. 2020 - Apr. 2020*

MACHINE LEARNING, LOGISTIC REGRESSION, SVM,RANDOM FOREST

- A python application to classify Breast Cancer.We used Principal Component Analysis and Backward Elimination techniques for feature extraction concluding the best performing technique as PCA
- We compared different classification algorithms like SVM, Kernel SVM, Random Forest, Logistic Regression, Naive Bayes and K-Fold Cross Validation was used to avoid overfitting and best accuracy was given by Kernel SVM

NGO Helper App *Mar. 2018 - Apr. 2018*

ANDROID STUDIO, FIREBASE DATABASE

- An Android app that helps people to communicate with NGOs by easily finding nearby NGOs and their information through app , so that they can help society by donating the needful things and thereby contributing towards their progress and a better living.
- A user can easily track NGO's nearby his/her location and can select any activities further like birthday celebrations or donations to be done to a selected NGO with further enquiries.

Geek Quiz *Nov. 2016 - Dec. 2016*

TURBO C++, DATA STRUCTURES

- A user friendly Techno-Quiz application which lets you analyze your knowledge.
- It is a 3 level quiz which proceeds to next level after user achieves a badge for that level

Work Experience

BARCLAYS *Pune, India*

DATA ANALYST - BA4 *Aug. 2018 - Present*

- Demonstrated Machine Learning skills in a presentation on "Machine Learning" through Knowledge Cafe Session at Barclays covering basics of ML and Neural Networks broadly wherein I created a demo using Jupyter Notebooks for a Rock Papers Scissors game using Neural Networks.
- Worked on Sentiment Analysis of Customer Survey responses for Online Banking collected by NPS survey to understand reviews of customers on Online Banking features and created a Dashboard in AngularJs to display visualisations on sentiments of Customers for different features
- Working on new feature that offers customers read-only services when mainframes are down which can be done by using data held on ODS (Operational Data Store) which is accessed via uplifted Mid-Tier Services (MTSs) by using a switch with four possible modes.
- Implemented server side solution to prevent CSRF attacks wherein two factor authentication wasn't used.
- Implemented fraud preventing solution to prevent users from providing false contact details using secure and appropriate validations required.

HackersDigital *Pune, India*

SECURITY ENGINEER AND ANDROID DEVELOPER *Mar. 2018 - Apr. 2018*

- Implemented Android app for loan collection.
- Build and automated installation of vms on ESXI servers

Skills

Programming Languages	C, C++, Python, R, Octave, Core Java
Platforms	Anaconda , Pytorch, Jupyter notebooks , Tensorflow , skicit-learn , Matlab / Octave , Kaggle
Databases	MYSQL database, Firebase database
IDE's	Pycharm, IntelliJ, Android Studio, Turbo C++, Eclipse, QT Creator

Activities & Achievements

2019	**Organised HOUR OF CODE as an initiative for International Coding Week,** to teach school students Coding and Algorithmic Concepts by innovative and simple games	*ZP School Talegoan, Pune*
2017	**Earned a certificate in Machine Learning by Stanford University,** on Coursera with grade of 96.5 %	*Coursera*
2017	**Qualified Google Codejam,** Round 1.	*Google CodeJam*
2017	**Semi-finalist,** Reached the Semifinal round of TCS Codevita 2017.	*PCCOE, Pune*
2018	**Runner up,** Secured 2nd position in Just Coding competition at ACM-W during celebration of women in computing at PICT APCWIC	*PICT, Pune*
2011	**State level,** Swimmer	*Balewadi, Pune*
2017	**Finalist,** Secured 1st position in BE-C contest of Hackerrank	*PCCOE, Pune*
2018	**Earned badge for Algorithms domain on Hackerrank,** (achieved 3 off 4 stars)	*Hackerrank*
2016	**Secured 5th position in Codewars event of Techlligent,** (National Level Event)	*PCCOE, Pune*
2011	**Secured 1st position in class and 275 State rank ,** International Olympiad of Mathematics	*KSDSV, Satara*
2014	**Worked as Representative of Cultural Club ,** in First Year Department of Engineering	*PCCOE, Pune*
2012	**Attended Inspire Internship Camp held at IISER ,** Pune	*IISER, Pune*