RAHAVEE PRABAKARAN

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EDUCATION

Master of Science in Computer Engineering **Expected May 2023**
Arizona State University, Tempe, AZ **3.33 CGPA**
Coursework: Foundations of Algorithms, Machine Vision and Pattern Recognition, Data Processing at Scale, Artificial Neural Computation, Random Signal Theory.

Bachelors of Engineering in Electronics and Communication Engineering, *First Class with Distinction* **June 2021**
Anna University, India **8.53 CGPA**
Coursework: Machine Learning Techniques, Python, C/C++, Data Structures

TECHNICAL SKILLS

Programming & Databases: Python, SQL, MySQL, PostgreSQL
Software: Jupyter Notebook, PyCharm, VSCode
Libraries & Frameworks: Scikit-learn, NumPy, Pandas, OpenCV, Matplotlib, Flask
Deep Learning Platforms: TensorFlow
OS & Project Tools: Windows, Linux, Git-GitHub

PROFESSIONAL EXPERIENCE

Android Application Development Intern, KBP Smarther Solutions Private Limited, India **June 2020-July 2020**

- Designed and developed Android based Mobile Application using JAVA, Android Studio and MySQL database.
- The application enables users to register complaints, place maintenance requests and for the administrators to view the same.
- Developed UI for the application by incorporating Linear Layout, Relative Layout, Frame Layout, Grid View, List View, Navigation Bar and Bottom Navigation.
- Assisted in performing database CRUD operations thereby gaining exposure to understand MySQL database.

PROJECTS

Exploring the Mechanisms of Feature Extraction (Computer Vision – Feature Extraction- Python, PyTorch)

- Qualitatively assessed the performance of VGG- 19 by training two identical networks trained on CelebA dataset labeled for different image attributes and visualized intermediate feature maps as heat maps.
- "Smile" and "Male" classes were chosen. The intermediate feature maps for the first model (trained for Smile Vs No Smile) were looking for features around the mouth and the second model (trained for Male Vs No Male) were looking for features around the eyes. So, it can be safely inferred that the model was looking for meaningful features and more or less looking for features that typically a human will look for.
- Studied the structural differences between the networks by extracting weights and bias matrices of single layers in a network structure from all the networks saved during the training process and arranging them in an array.

Facial Recognition Web Application (Computer Vision – Image Processing- Python, TensorFlow, Flask)

- Developed a web application to classify images as Male and Female using Haar cascade classifier, Support Vector Machine, OpenCV, Pandas, NumPy, Scikit-learn, PIL and Flask.
- Performed image resizing, cropping and conversion into gray scale image. Obtained a model of accuracy 91.6%.
- Developed web server gateway in Flask and integrated the Machine Learning Model to Flask to obtain the Face Recognition Project.

Client Subscription Prediction (Machine Learning-Python, Jupyter Notebook)

- Developed a machine learning model to predict if the customers of a retail banking institution will subscribe to term deposits.
- Performed data pre-processing, data visualization, normalization to prepare the data.
- Applied Linear Regression classification algorithm Linear Regression train the model.
- Model created with an accuracy of 93.78%

Design of Easy Appliance Control System Based on Virtual Reality (Embedded Systems, Image Processing -Visual basic, Arduino IDE, Proteus 8.6, Embedded C)

- Developed an Embedded system model incorporating Virtual Reality which enables users to operate home appliances using just hand gestures.
- Built the Virtual Reality Sensing Device which consists of an ADC, PIC Controller, Motion Sensor, Camera. Connected this device to the transmitter (Micro-controller) and receiver section (Micro-controller, Relay Unit, Home Appliances). Used Arduino IDE to code for the working of the Liquid Crystal Device and used Visual Basic for image processing.
- Presented the Project in **"The International Conference on Multi-Disciplinary Innovations in Computing and Communication".**