SHIVANI MANGALESWARAN

shivanimangaleswaran@gmail.com | https://shivanimangal.github.io | https://github.com/ShivaniMangal

EDUCATION

Sathyabama Institute of Science and Technology | Chennai, India   Jul 2015 - May 2019
Bachelor of Engineering in Computer Science and Engineering, First Class – Exemplary   CGPA: 9.60 (10 Point Scale)
2nd Rank Holder in the Department of Computer Science and Engineering

UNDERGRADUATE ACADEMIC PROJECTS

1. **SMART IoT WATER MOTOR CONTROLLER**
    Developed an automated water level controller based on capacity to prevent wastage of water using Raspberry Pi single board computer, ultrasonic sensor - HCSR04 and Java Micro Edition 8.3.

2. **PREDICTION OF HOUSING PRICES**
    - Performed Exploratory Data Analysis on house prices in King County for appropriate feature selection.
    - Trained five machine learning models for price prediction; Random Forest Classification had the highest accuracy of 92%

3. **COMPARATIVE ANALYSIS - TIME SERIES PREDICTION MODELS**
    - Time Series Predictions were made from datasets for three problem statements - Housing Prices, Stock Prices and Anomaly Detection of Machine Temperatures using different statistical, ML and DL models.
    - The ANN model resulted in an accuracy of 85% for housing price range (above or below mean price) prediction.
    - LSTM models had low MSE of the order of 10^{-4} for stock prices and anomaly detection, and was the most accurate.
    - Predicted values were visualized against test values.

WORK EXPERIENCE

Verizon India, Chennai - RMZ Millenia Business Park
Member of Technical Staff – I   (*Full Stack Hybrid Mobile Application Developer*)   Jul 2019 - Present
Corporate Systems Group – Global Real Estate Mobile Application Development team

- Verizon's patented Findr Application helps users navigate through offices worldwide. Transformed the existing web app to a mobile application compatible on iOS and Android platforms using Ionic and Angular. Added QR scan feature to display the user's exact location on the floor map. Currently work on the end-to-end software development lifecycle including app builds, multi-platform testing and functional enhancements. Recognized with the "Verizon Spotlight Award - Personal Commitment" for key contributions to the full stack development of Findr mobile app.
- VZ Shuttle app was developed for employees to book rides between Verizon offices. Part of the VZ Shuttle App team throughout design and development phases. Worked on MySQL CRUD operations and built appropriate Rest APIs, using Java Spring Boot and JDBC Template. Presented the app to the VP, Verizon CSG division.
- Built additional features using Angular, in VZ Shuttle Admin Portal Web App for fleet management.
- Designed and developed a POC for VZ Shuttle Driver Android App in Kotlin. Broadcasted driver's real-time GPS location to Admin Portal using Google Maps API and Firebase DB. Demonstrated app features to business stakeholders.

Verizon India, Chennai - RMZ Millenia Business Park
Student Intern, Corporate Systems Group - Innovation Lab   Feb 2019 - May 2019

- Part of a team that tracked the number of people entering and exiting the building, through analysis of thermal sensor data and Raspberry Pi camera feed.
- Used OpenCV background subtraction techniques for object tracking and experimented with light weight CNNs on the Pi for image classification; achieved 75% accuracy.
- Contributed to the detection of people count in conference rooms using thermal sensor imaging.

PUBLICATIONS AND PRESENTATIONS

1. Presented a paper entitled "Prediction of Housing Prices using Machine Learning, Time Series ARIMA Model and Artificial Neural Network" in the International Conference on Data Science, Machine Learning & Applications 2019, which has been published [1] in ICDSMLA 2019 Springer Book, 2020.
2. Verizon India co-speaker at the ThoughtWorks webinar [2] on "Sensor and vision-based real-time tracking", 2020.
3. "Lead Talk" on "Introduction to IoT and Automation", Sathyabama Institute of Science and Technology, 2017.

TECHNICAL SKILLS

Programming & Scripting Languages: C, C++, Java, Python, Kotlin
DBMS: MySQL, Firebase, PostgreSQL
Web Technologies: HTML, CSS, JavaScript, TypeScript
Frameworks & Tools: Angular, Ionic, Spring Boot, Gitlab
Python Libraries: Numpy, Pandas, Scikit-learn, TensorFlow, Keras, OpenCV, Matplotlib, Plotly

MOOCs & CERTIFICATION COURSES

1. Python for Data Science and Machine Learning Bootcamp, Jose Portilla, Udemy 2018.
2. Java IoT Developer (WDPIN), Oracle University, 2017.
3. Introduction to Modern Application Development, NPTEL Online Certification, IIT Madras, 2016.
4. Short Term Course on Journalism, Silver Tongue Academy, Sathyabama University, 2015-2016.

AWARDS, SCHOLARSHIPS & ACHIEVEMENTS

1. Recognized with "Verizon Spotlight Award - Personal Commitment" as a key full stack developer, Findr App, Dec 2020.
2. Three-time recipient of the "Remibai Jeppiaar Scholarship" for Academic Excellence, 2015-19.
3. "Star of Excellence Award" in recognition as the Best Outgoing Student of 2015-19 batch, Department of CSE.
4. Final year project on "Time Series Analysis" shortlisted for the Best Project Award, Department of CSE, 2019.
5. 1st place in Club Level Table Topics Contest, Verizon Toastmasters Club; 2nd place in subsequent Area Level, 2020.
6. Qualified for Regional Pre-Finals, amongst the top 10 speakers, ICT Academy Youth Talk, Chennai, 2017.
7. Poetry published in The Prose Anthologies Vol I & II, available for purchase on Amazon Kindle and Paperback, 2015.

LEADERSHIP POSITIONS AND VOLUNTEERING

1. Appointed as the Class Ambassador for 4 consecutive years for a class strength of 70 students.
   Primary responsibilities included:
   - Collecting and consolidating different types of student records in an easily accessible manner for professors.
   - Communicating vital information regarding coursework and university updates to classmates.
   - Representing the student body's concerns & suggestions to the Department Head or University officials.
2. Vice President of the English Literary Club, Sathyabama University, 2016-2017.
3. Compered for several official University and CSE Department events from 2015-19.
4. Drafted MoMs for weekly club meetings as Secretary of Toastmasters Club at Verizon, Chennai.
5. Active volunteer in the Employee Engagement team, involved in budget allocation, activity planning and hosting 'Team-Building Events' every quarter, for the Corporate Systems Group, Verizon, Chennai.
6. Editor and Content Writer, Editorial Team of the Corporate Systems Group Monthly Newsletter, Verizon, Chennai.
7. Head of the English Club, St. John's English School and Jr. College, 12th Grade, 2014-15.

[1] Mangaleswaran S., Vigneshwari S. (2020) Prediction of Housing Prices Using Machine Learning, Time Series ARIMA Model and Artificial Neural Network. In: Kumar A., Paprzycki M., Gunjan V. (eds) ICDSMLA 2019. Lecture Notes in Electrical Engineering, vol 601. Springer, Singapore. https://doi.org/10.1007/978-981-15-1420-3_110
[2] Sensor and Vision-Based Real-Time Tracking, GeekNight, ThoughtWorks: https://www.youtube.com/watch?v=hoE349PZ2Qo