# SHIVANI MANGALESWARAN

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## NATIONALITY

USA Citizen by birth with valid US Passport, living in India on OCI status.

## EDUCATION

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

## WORK EXPERIENCE

**Verizon India,** Chennai - RMZ Millenia Business Park — Feb 2019 - Present
Corporate Systems Group – HR & Global Real Estate

**Engineer I - Software Development** — Jul 2019 - Present

- Verizon's patented Findr Application is an indoor navigation system used in Verizon 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. Worked on end-to-end software development lifecycle including app builds for Android, multi-platform testing and functional enhancements based on feedback from business.
- Recognized with "Spotlight Award - Personal Commitment" for contributions to 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. Developed REST APIs in Java Spring Boot and MySQL. Drafted user manuals and demonstrated the mobile app features to the VP, Verizon CSG division.
- Developed 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.
- Developed a Java scheduler to store Book a Space reservations in PostgreSQL for internal analytics team.
- Currently working with business stakeholders to design and develop a portal for community managers to edit and update location-based hospitality information displayed on a customer facing application.
- Received the highest performance rating reserved for a select group of employees for the year 2020.

**Student Intern** (IoT R&D) — Feb 2019 – May 2019

- 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.

## TECHNICAL SKILLS

**Programming & Scripting Languages:** Java, Python, Kotlin, TypeScript, HTML, CSS
**Frameworks & Tools:** Angular, Ionic, Spring Boot, Gitlab, Jira, Rally
**DBMS:** MySQL, PostgreSQL, Firebase
**Python Libraries:** Numpy, Pandas, Scikit-learn, TensorFlow, Keras, OpenCV, Matplotlib

## PRESENTATIONS AND PUBLICATIONS

1. Verizon India co-speaker at the ThoughtWorks webinar [1] on "Sensor and vision-based real-time tracking", 2020.
2. 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 [2] in ICDSMLA 2019 Springer Book, 2020.
3. "Lead Talk" on "Introduction to IoT and Automation", Sathyabama University, 2017.

## AWARDS, SCHOLARSHIPS & ACHIEVEMENTS

1. Recognized with "Verizon Spotlight Award - Personal Commitment" by project manager, 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, CSE Dept.
4. 1st place in Club Level Table Topics Contest, Verizon Toastmasters Club; 2nd place in Area Level, 2020.
5. Qualified for Regional Pre-Finals, amongst the top 10 speakers, ICT Academy Youth Talk, Chennai, 2017.
6. Poetry published in The Prose Anthologies Vol I & II on Amazon Kindle and Paperback, 2015.

## LEADERSHIP POSITIONS

1. Drafted MoMs for weekly club meetings as Secretary of Toastmasters Club at Verizon, Chennai.
2. Active member of the Employee Engagement team, involved in budget allocation, activity planning and hosting quarterly Team-Building events, for the Corporate Systems Group, Verizon, Chennai.
3. Editorial team member, Corporate Systems Group Monthly Newsletter, Verizon, Chennai.
4. Vice President of the English Literary Club, Sathyabama University, 2016-2017.

## CERTIFICATION COURSES

1. Python for Data Science and Machine Learning Bootcamp, Jose Portilla, Udemy 2018.
2. Java IoT Developer (WDPIN), Oracle University, 2017.

## ACADEMIC PROJECTS

1. **PREDICTION OF HOUSING PRICES**
   - Performed Exploratory Data Analysis on house prices. Trained five machine learning models for price prediction; Random Forest Classification had the highest accuracy of 92%
2. **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 ML and DL models.
   - The ANN model resulted in an accuracy of 85% for housing price range prediction. LSTM models had low MSE of the order of $10^{-4}$ for stock prices and anomaly detection, and was the most accurate.
   - Visualized predicted values against test values.
3. **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.

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[1] Sensor and Vision-Based Real-Time Tracking, GeekNight, ThoughtWorks: https://www.youtube.com/watch?v=hoE349PZ2Qo
[2] Mangaleswaran S., Vigneshwari S. (2020) Prediction of Housing Prices Using Machine Learning, Time Series ARIMA Model and Artificial Neural Network - ICDSMLA 2019, Springer. https://doi.org/10.1007/978-981-15-1420-3_110