SHRUTHIP VENKATESH

TECHNICAL SPECIALIST
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ABOUT ME

Leverage my expertise to contribute to the company's long-term goals, while continuously enhancing my skills and staying updated to deliver exceptional performance.

EDUCATION

- *Executive Post Graduate Program in Machine Learning & Artificial Intelligence (2024)*
  International Institute of Information Technology, Bangalore
  CGPA : 3.87/4
- *Bachelor of Technology/ Electrical and Electronics Engineering, (Gold Medal) (2018)*
  Amrita School of Engineering, Amrita Vishwa Vidyapeetham, Coimbatore
  CGPA : 9.92/10
- *Higher Secondary Education (12 th) (2014)*
  Petit Seminaire Higher Secondary School, Puducherry
  Percentage : 98.16
- *SSLC (10 th) (2012)*
  Petit Seminaire Higher Secondary School, Puducherry
  Percentage : 97.2

EXPERIENCE

➢ CONTINENTAL AUTONOMOUS MOBILITY, Bangalore (*Feb 2022 – Present*)

Project: Lane Detection and Post Processing System *(June,2024 - Present)*

Description	As part of the ML project, worked to build models to extract lane information from camera-captured images and performed post-processing to refine model outputs for enhanced accuracy.
Role	ML Engineer, C++ Developer
Skills	Python, C++, Machine Learning, Computer Vision, Image Processing
Tools	Visual Studio, Weights and Biases, Tensorboard

Project: Problem Report Analyzer *(Aug,2024 - Present)*

The idea earned second place in a pitch fest, and I had the opportunity to present it at a global company tech talk.

Description	Developed a Generative AI-based tool designed to eliminate redundant efforts in analyzing existing or similar problem reports, streamlining the process and *improving efficiency by 10x*
Role	Lead Developer
Skills	Python, Generative AI, Prompting LLM, RAG
Tools	Visual Studio, Open AI API, ChromaDB, Jupyter Notebook

Project: Comprehensive Environment Modelling *(Feb,2022 - May 2024)*

Description	As part of the ADAS project, worked as a developer in modelling and tracking the environment around the vehicle. The environment includes *static and dynamic objects, parking slot and road information.*
Role	Sensor Fusion Developer, Product Owner (for static object modelling)
Skills	C++, Kalman Filter, Association and Gating
Tools	Visual Studio, cmake, bricks, DOORS, Helix QAC, Gtest

Innovation *(April, 2022 - Present)*

Description	I have been leading the innovation activity in the team and taking the team towards filing patents. And developing tools for enhancing productivity. (*One of my patents is approved for patent filing*)
Role	Lead, R&D

SKILLS

Technical:

- *Hands on experience in:*
  - Sensor fusion using Kalman filter and Association for environment modelling.
  - HomeKit.
  - Bluetooth and WiFi.
  - Machine Learning.
  - Image Processing (OpenCV)
  - Generative AI
  - Code quality like code coverage test (Gtest), MISRA standard, tracing the requirements.
  - Beginner Windows application development
- *Languages:* C, C++, Python
- *Tools:* Git, Jira, DOORS, Confluence, Bitbucket, SVN
- *IDE:* Visual Studio Professional, Visual Studio Code, Jupyter Notebook,IAR, Wiced Studio, Code Composer Studio, LabVIEW, Arduino

Non-Technical:

- Team player
- Good communication skills
- Multitasking
- Organizing
- PowerPoint presentation

LEADERSHIP

- **Lead** innovation team for developing tools for enhancing the productivity
- **Lead** innovation activity for patent filing
- **Lead** a team of 3 for a proof of concept of XY plotter-based test automation
- **Technical Co-Head** of EEE department for Amrita Annual

➢ RESIDEO (R&D) [*Honeywell Homes*], Bangalore *(Nov 2018 – Feb 2022)*

Project: HomeKit feature using Wi-Fi *(Feb 2019 – Feb 2022)*

Description	A thermostat regulates a home's HVAC system and, with IoT, becomes a smart device. Apple's HomeKit enables seamless integration of third-party devices into its ecosystem, using WiFi to connect the thermostat to mobile devices for easy control.
Role	Developer
Skills	C , C++
Tools	Wiced Studio , IAR

Project: Thermostat enabled with Bluetooth 5.0 *(Nov 2018 – Jan 2019)*

Description	This project aims to enable thermostat control via BLE 5.0, allowing users to operate the device without an internet connection while at home. It includes initial device setup and cloud registration when internet access is available.
Role	Developer
Skills	C
Tools	Code Composer Studio

Project: XY plotter based test automation *(Nov 2019 (2 weeks))*

Description	In this proof of concept, the mobile app test cases are automated using XY plotter (AxiDraw). The main concept used here is image processing.
Role	Lead (a team of 3) , Developer
Skills	Python
Tools	Visual Studio Code, Tesseract, OpenCV

INTERNSHIP

➢ RESIDEO (R&D) [*Honeywell Homes*], Bangalore

Project: Detection of events based on audio *(May, 2018 – Aug 2018)*

Description	The project aims to detect various home events using audio data, leveraging Machine Learning to analyze and identify events and notify the user accordingly.
Skills & Tools	Python Developer, Visual Studio Code

➢ HONEYWELL TECHNOLOGY SOLUTIONS(R&D),Bangalore

Project: General Purpose Sensor for Home Environment *(Jan, 2018 – Apr 2018)*

Description	This project aims to integrate multiple sensors to detect home events and provide the information to users. Additional features include using a mobile interface to connect a Raspberry Pi to a WiFi access point and enabling firmware updates to the latest version.
Skills & Tools	Python Developer, Visual Studio Code, Raspberry Pi

➢ INDIAN INSTITUTE OF TECHNOLOGY, MADRAS

Project: Performance Analysis of solar panel *(Jun, 2016 – July 2016)*

Description	The designed tester is used to evaluate the efficiency and various parameters of a solar panel, including conducting open circuit and short circuit tests using electronic circuits.
Skills & Tools	LabVIEW, Arduino

COURSE WORK

- Completed ***EPGP Degree in AI & ML*** in IIIT, Bangalore. During the course, various projects were developed related to
  - Data science – Predicting bank defaulters, Telecom Churn, House price, demand for bike sharing
  - Neural network – Eye for Blind, Melanoma disease classification, Gesture recognition
  - Generative AI – ChefGPT, IP consultant based on Arxiv website, Myntra Fashion AI
- Completed ***Self Driving Car Nanodegree*** in Udacity sponsored by KPIT. The Course consisted of five projects as explained below.
  - *Finding Lanes* – Detect lanes in the images using python and OpenCV techniques.
  - *Advanced Finding Lanes* – Detect lanes in the images in a more realistic environment like shadows, curves, etc.
  - *Traffic Sign Classifier* – Classify the traffic signs seen on the road using Neural Network. The open-source German traffic sign dataset is used to train the network.
  - *Behavioural Cloning* – Train the Neural Network to drive the car as trained. The data was collected by driving the car by myself.
  - *Extended Kalman Filter* – Fuse Laser and Radar sensors to predict the position of the vehicle.

AWARDS

- Spot Award for performance excellency.
- Bronze Award(two) for BLE enabled devices.
- Bravo Award for XY plotter based test automation.
- Best Outstanding Student (2014-2018)
- Best Academic Performance (2016-2017)
- Outstanding Student of the Year (2015-2016)

ACHIEVEMENTS

- Went to **National Level Finals** in "Delta Cup" by DELTA ELECTRONICS Ltd. 2017.
- Made a ***Poster Presentation*** on ***Industrial Waste Management Robot*** at "International Conference on Robotics for Automation and Humanitarian Activities (RAHA)" conducted during December,2016 at Amrita School of Engineering, Amritapuri.
- Secured ***First*** in "Shaastra Circuit Design Challenge" at *IIT MADRAS Techfest, Shaastra 2016*
- Secured ***Second*** in "Eleckart" at *IIT MADRAS Techfest, Shaastra 2016*
- Secured ***First*** in "Fist of Fury" at *Amrita Annual Techfest 2016*

PROJECTS

Some of the college projects:
1) LabVIEW based Robotic Arm control
2) Automated Cloth Protector
3) Digital Power Factor Meter
4) Networking of motors

PERSONAL DETAILS

Date of Birth : 16/12/1996
Father : Venkatesh Babu. V
Mother : Manjula. V
Languages: Telugu, Tamil, English, French
Mother Tongue : Telugu
Hobbies : Travel, Music, Movies