

Shivangi Agarwal

Embedded Software Engineer

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Career objective:

Dedicated, results oriented, motivated, focused and self-oriented Engineer. Hands on experience in humanoid-robotics as an effective team player attitude coupled with outstanding interpersonal and soft skills with keen interest in automotive field.

Professional Skills:

- **Programming Language:** C, Embedded C, C++11&C++14 , Assembly Language, Python, MATLAB
- **IDE:** Keil U4 & U5vision, Top View Simulator, ISIS Proteus8, AVR Studio4, Proteus7, openSUSE3.1, putty, CodeBlock, ANACONDA ,Jupyter
- **Microcontrollers:** AVR Atmega, ARM Cortex M3-M4, Arduino UNO, RaspberryPi , STM32F407 of ARM Board
- **Protocols:** UART, SPI, I2C, CAN, FlexRay
- **Operating Systems:** Windows, Linux distribution UBUNTU
- **Technologies :** GSM, RFID, ADAS Features , AUTOSAR and Autonomous Driving introduction, Simulink modeling and simulation, Machine learning with Linear Regression, Classifier and Neural Network, Vehicle modeling for Lane Detection, Corner detection and Edge detection with Hough transform, Data filtering techniques of Lucas Kanade and Kalman filter

Work Experience:

May 2021 to April 2022: Worked with Satyam Ventures at client location ZF India Pvt Ltd

Project: Opel-SCS, Daimler MMA IBC, BMW SP18, IBC Core GEN2

Client: ZF Friedrichshafen AG [Koblenz]

Tools: Trace32 debugger, Rhapsody, Eclipse IDE, Polyspace, QAC, VectorCAST, CANalyser, SPI , I2C and CAN protocol

Description: Analysis, Debugging and Implementation of project requirements from low-level driver to user-application of SA and ASICS module for ADC, WaterIngressDetection sensor, Capella driver for motors, Wheel Speed Steering Sensor.

Responsibilities : Debugging and Implementing client requirements for 2 different module individually at a time in multiple projects

April 2019 to March 2020: Worked with Adecco Group at client location Tech Mahindra

Project: Advanced Driving Integration Machine

Client: Tech Mahindra [Hitachi, General Motors & Cruise Automation]

Tools: Trace32 debugger, MobXterm compiler, Eclipse IDE, Enterprise Architecture for designing, Renesas RH850 board, CAN and LIN protocol

Description: Integration of Analog Inputs of ADC module in MCAL layer of AutoSAR as fuel sensor, 12v battery, air-conditioner and accessory sensor

Aug 2016 to Feb 2017: Worked as an Embedded Software Engineer at Cyient Limited for client Airbus, Bangalore

Project: A400M LMC[Load master control]

Client : AIRBUS

Tools : LDRA ,Beyond compare C, Cygwin tool

Description : Worked on Panel Manager of Aircraft Cabin of LMWS, LMCP and SWLP

Responsibilities: Analyzed and tested code as per client requirements.

Mar 2017 to Aug 2017: Worked as a Embedded Software Engineer at Cyient Limited for client Boeing, Bangalore

Project: Software Defined Ratio [SDR]

Client : BOEING

Tools : Putty

Description : Worked on AES algorithm for data security of transmission and reception of data.

Responsibilities: Developed software for designed Cryptography.

Sep 2017 to Nov 2017: Worked as a Embedded Software Engineer at Cyient Limited for client Cestron, Bangalore

Project: Wind River

Client : CESTRON

Responsibilities: Debugged issues in developed software.

Academic Project:

Home Automation

Course: Embedded System and Design

Jul 18 – Mar 19

Organisation: Vector India Pvt Ltd

Tools: AT89S52 Atmega board of 32-bit , LDR sensor, IR sensor, PIR sensor, Temperature Sensor(LM35)

Description: Home safety using sensor for fire detection, water flow detection , human detection and controlling fan speed

Responsibilities:

- Designed the code
- Hardware interfacing
- Using Embedded C programming and UART,SPI protocol

Digital Relay Implementation

Course: P.G Diploma

Feb 16 – Jul 16

Organisation: Centre for Development of Advanced Computing

Tools: MSP430F6779 Texas Instruments board of 128-bit

Description: Aimed the measurement of voltage and current consumption by appliances on excess current relay will be tripped off for IoT R&D project of CDAC

Responsibilities: Analysed , tested and debugged the code with SPI communication protocol

Automatic Meter Reading[AMR] using GSM

Course: B.Tech in Electronics and Communication

Jan 15 – Jun 15

Organisation: Ideal Institute of Technology

Tools: PIC controller of 32-bit, GSM with parabolic antenna

Description: AMR collecting data from energy meter and transferring to central database for analysis and with GSM send to a particular number through SMS on request

Responsibilities: Used Embedded C with SPI protocol

Safety Security System

Jul 14 – Dec 14

Course: B.Tech in Electronics and Communication

Organisation: Ideal Institute of Technology

Tools: AT89S52 Atmega 32-bit board, GSM, RFID

Description: A message is generated after scanning RFID using GSM on employee phone and code used for the entrance .

Responsibilities:

- Hardware interfacing
- Using UART protocol for coding

Education:

Embedded System Certification Jun 18 – Mar 19
Vector India Pvt Ltd,
Bengaluru

P.G Diploma in Embedded System and Design Feb 15 – Aug 16
Center for Development of Advanced Computing (CDAC) KP,
Bengaluru [61%]

B. Tech Electronics and Communications Jul 11 – May 15
Ideal Institute, Uttar Pradesh Technical University [68.78%]

Senior Secondary Apr 09 – Mar 10
Aklank Public School Kota, CBSE [84%]

Higher Secondary Apr 07- Mar 08
Kendriya Vidyalaya, Churu, CBSE [82%]

Achievements:

- Attended UbiComp seminar at CDAC based on IoT Enhancement and Projects
- Attended Conference of CDMA communication technique
- Winner of Intercollege Tech Fest for developing Home Security System.
- First runner up for creating Wired robotic Arm in Intercollege Robotic competition.
- Reached till semifinal of I-SEC System Android competition of same workshop for Application
- Development and till Quarterfinal of Technophile System I-USA competition of same workshop for Accelerometer Sensor.
- Head of APEX society of Electronics and Communication Department in 2012 and 2014-15.

Personal Details:

Gender : Female
Birthday : March 25, 1993
Marital Status : Single
Languages : Hindi, English
Nationality : Indian
Permanent Address : Block-C, House No.-191,A, Agrasen Nagar, Churu(Raj.)-331001

Declarations:

I, Shivangi Agarwal, hereby declare that the information furnished above is correct to the best of my knowledge.

Date: July 15, 2022

Place: Bengaluru