MAYANK SHUKLA

8 years of experience in embedded domain.



EXPERIENCE

Senior Executive - Projects

Varroc Lighting Systems

₩ June 2020 - Ongoing

Body side lamp module development.

- ADC configuration, Temperature and Voltage monitoring, Derating, Binning, Fail safe behaviour, LED driver module: configuration and diagnostics implementation.
- Python scripting to automate testing and HTML report generation of UDS server.
- Scripting for various testing and chip configuration solutions reducing production time at EOL.

Associate - Projects

Cognizant

April 2018 - Feb 2020

Instrument panel cluster development as per AUTOSAR 4.3.1 standard.

- SoAd, Ethernet Wrapper and TCP-IP module owner in BswM layer.
- Experience of Vector tools: Davinci Configurator, VectorCast, CANoe, PRQA, etc.
- Debugging, static code analysis as per MISRA guidelines.
- Requirement analysis and implementation

Firmware Developer

Dynasense Technologies

m June 2017 - Jan 2018

A Med-Tech startup company by IITian's focused on providing economical medical solutions in market.

- Leading team of 2 people delivered 2 prototypes in span of 7 months on colorimetric technology.
- End to end development cycle of product: Firmware development, Algorithm development, PCB design and designing test cases.

Engineer

iSense Inc.

Apr 2015 - Mar 2017

- Developed robotic platform with features of mimicking basic animal movement(Providing basic sense of direction and collision avoidance).
- Technical article writing.
- Automated medical report data procurement using OCR.

Embedded engineer

Selec Controls Pvt. Ltd.

Aug 2013 - July 2014

Selec controls is focused on designing and manufacturing high precision and reliable meters and controllers.

 As fresher worked in production line for 2 months learning debugging and product details, which also helped me gain better understanding of product issues at manufacturing, testing, debugging and quality check.

MOST PROUD OF

Automated UDS server testing

Implemented configurable python script to test UDS server implementation, reducing testing time from a day to merely 10 mins.



Startups

Received appreciation from clients and Director.



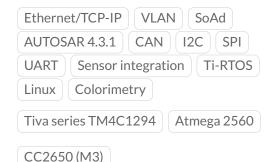
ROBOCON KJSIEIT 2013

Founded and lead the group to 47 rank at national ROBOCON competition.

SKILLS

C Python MATLAB & Octave
OpenCV Debugging Assembly
HW/PCB design & Debugging

TECHNOLOGIES



TOOLS USED



EDUCATION

BE Electronics and Telecomm.

KJ Somaiya Institute of enginnering and IT

July 2009 - May 2013

PROJECTS

EEG based paralysed patient assistance system (year 2013)

A study project to evaluate feasibility of using EEG for paralytic patient assistance.

- Literature review of existing products in market and evaluating if ready made EEG's can be used for projects.
- EEG data cleaning, pre-processing and analysis using ICA.
- Evaluating existing algorithms and tools for EEG analysis, specially open source tools eg: NBT toolbox.

Ethernet module management

Configuration and management of Ethernet module for Instrument panel cluster.

- Analysis and implementation of requirement.
- Configuring Ethernet module parameters using Davinci Configurator.
- Creating Detailed design documents for Ethernet module on DOOR's.
- Debugging and testing reported bugs.

Colorimeter

A Glucometer that can detect the change in colour gradient from inhouse developed test strips and quantize the data.

- Literature review, research and technology development.
- Functional & POC development, testing, Firmware development, PCB design.
- Automation of data procurement &processing using Python scripts.
- Achieved 95% accuracy as per ISO: 15197:2013 standards.

Omni directional bot

An omni directional bot mimicking the behavior of caribou (wild animal) as a fine art project.

- Around 10 to 20 bots sensing each other in nearby field functioning in non centralized way, very much a wild animal uses its eyes and other senses to sense nearby animals and move accordingly in a herd.
- Major challenge of this project was to implement IR sensing of each bot with minimal interference and reliable distance measurement.
- Integration of sensors like accelerometer, magnetometer and colour sensor for various other functions used by client.

OCR pre-processing

Pre-processing the image before passing it to OCR for enhancing word recognizance.

- Structure detection, line separation and de-skewing the image of reports using OpenCV.
- Making a bi-gram and tri-gram list for increasing the prediction accuracy of tesseract OCR tool.

Temperature controller

Increasing the precision and accuracy.

- Adding feature to compensate for steep non linear behavior at zero crossing of various thermal sensors.
- Hardware and functional testing of new series of temperature controller product.

INTEREST



Knowing about new ideas and technology in market.



Reading self help books.



Drawing.



Its major source of my knowledge and entertainment.

QUOTES

"Measure twice, cut once"

Anonymous

"Don't Just Learn To Code, Learn To Create."

Justin Richards

"Be clear with your objective"

Dhananjay Parchure

"Failure is an option here. If things are not failing, you are not innovating enough"

Elon Musk