

RISHAV SINGH

+917016993938 rsh04613@gmail.com linkedin.com/in/rishav-singh-0 github.com/rishav-singh-0

Education

Dharmsinh Desai University

July 2019 - May 2023

B.Tech. in Electronics Communication Engineering; CGPA - 8.65/10

Nadiad, Gujarat

Experience

Matrix Comsec Pvt. Ltd

Jan 2023 - Present

Embedded Platform Engineer

Vadodara, Gujarat

- Developed Network Video Recorders and IP Cameras, overseeing BSP creation with Buildroot and crafting kernel drivers for diverse functionalities, collaborating with cross team software architects
- Worked on 104 camera variants using 3 SoCs(SSC339G, SSC335DE, C5-36GW) and 12 NVR variants with 2 SoCs (RK3568, RK3588), ensuring compatibility and reliability
- Solely maintained multiple product lines, improved build times upto 80%, Makefiles, and release processes to enhance efficiency
- Designed drivers for PTZ camera motors, achieving 38x optical zoom with combination of 5 motors, and gyro-based image stabilization
- Resolved critical hardware-software issues, including NVR HDMI signal problems and OEM USB upgrade security

eYantra, IIT Bombay

May 2021 - Jul 2021

Intern

Mumbai, Maharashtra

- Optimized auto evaluation tool for working on Linux Kernels
- Created unified platform and connected Django backend with Vue frontend and automated dynamic docker container generation on submission and result evaluation based on each theme requirement

Projects

IoT based Hydroponics(Govt. Granted) | C++, Python, Flutter, Firebase

Apr 2022 - Jun 2022

- A Gujarat government granted(SSIP) project to modify hydroponics based farming system with IoT in order to improve quality of soil less farming
- Connected the hydroponics plant to the cloud server for data storage and control through flutter android app

Holonomic Drive Robot | ESP32, Atmega2560, ROS

Jan 2023 - Mar 2023

- Built a three-wheeled holonomic robot for precision path planning and image-based drawing
- Developed algorithms for motion control and image contour processing, enabling intricate pattern creation

Vitarana Drone - Autonomous Drone Based Delivery System | Python, ROS, Gazebo, Git

Oct 2020 - Feb 2021

- Used Robot Operating System(ROS) for Autonomous Drone based delivery system in a simulated environment
- Learned about team management and task division and distribution for achieving larger goals

Technical Skills

Languages: C, Python, Bash, Go

Technologies: Buildroot, Busybox, Rockchip, Innofusion SoCs

Tools/Frameworks: Linux, Git, GitHub, SVN, Jira, Docker

Fields: BSP Development, Board Bringup, Linux Device Drivers, IPCamera and NVR Development

Leadership / Extracurricular

Abhiyanta Community

Sep 2020 - Jun 2023

Tech Lead

Nadiad, Gujarat

- Mentored at project based learning platform by adding value through training and motivating innovators
- Instructor for explaining the concepts of Robotics, Robot Operating Systems, Linux, Git and Embedded Systems

DDU Connect

May 2019 - Jan 2023

Associate Developer

Nadiad, Gujarat

- Created and managed a team of developers for DDU Connect's official website and Android Application

Achievements

- Led the team to pre-finals round in eYantra Robotics Competition and were in **top 20** among **2603 teams of 572 colleges** all over the globe
- Winner of Code-e-Fest Competition in DDU annual festival (2021)