RISHAV SINGH

Experienced Embedded Linux Developer with leadership acumen. Dedicated to optimizing systems through BSP development, kernel programming, and Linux device drivers. Known for a meticulous approach and deep understanding of Linux architecture. Seeking to contribute expertise to a dynamic team.

CONTACT

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Rishav Singh
Rishav's Blog

SKILLS

Programming Languages
C, C++
Python
Bash
Go

Technologies
Buildroot, Busybox
Robot Operating System
8086 Microprocessor
Risc V
Django
Flutter, Firebase

Software & Tools
Git, SVN
Jira
Docker
Scilab
Ltspice, Keil µVision
Proteus, Multisim

Fields
BSP Development
Linux Device Drivers
IPCamera Development
NVR Development
Microcontrollers
Computer Architecture

Operating Systems
Ubuntu, Arch Linux
Windows

EDUCATION

B.Tech. in Electronics & Communication Engineering
CGPA - 8.65/10
July 2019 - May 2023
Dharmsinh Desai University, Nadiad

Higher Secondary Certificate (GHSEB)
Percentage - 71.5/100
June 2019
P.V.Modi School, Jamnagar

EXPERIENCE

Embedded Platform Matrix Comsec Pvt. Ltd.
Jan 2023 - Present
Vadodara, Gujarat
- Led Network Video Recorder and IP Camera platform team, overseeing all aspects of development
- Spearheaded BSP development using Buildroot, crafting kernel device drivers for diverse functionalities
- Proficiently handled SoCs including Rockchip and Sigmastar
- Orchestrated successful board bring-up for PTZ Camera integration

INTERNSHIP & OTHER EXPERIENCE

Intern at eYantra, IIT Bombay
May 2021 - Jul 2021
Bombay
- 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

Tech Lead at Abhiyanta Community
Sep 2020 - Jun 2023
Nadiad
- 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

Associate Developer at DDU Connect
May 2019 - Jan 2023
Nadiad
- Created a team of developers for DDU Connect's official website and Android Application

PROJECTS

Vitarana Drone
Oct 2020 - Feb 2021
link
- Technology: Python, ROS, Drone, Gazebo, Git
- 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

Linux Kernel Configuration
Jun 2021 - Jul 2021
link
- Technology: OS Components, Linux, Shell Scripting
- Configured Linux kernel for better power consumption, security and performance

IoT based Hydroponics(Govt. Granted)
Apr 2022 - Jun 2022
link
- Technology: C++, Flutter, Firebase
- 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

Industrial Surveillance Robot on FPGA

Jan 2022 - Mar 2022
link

- Technology: Verilog, FPGA, Quartus
- A FPGA based robot simulation for measuring the important industrial parameters using different sensors
- Armed with IoT gate way to analyze the required parameters

Holonomic Drive Robot

Jan 2023 - Mar 2023
link

- Technology: ESP32, Atmega2560, ROS
- 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

ACHIEVEMENTS

- **Led** the team to pre-finals round in eYantra Robotics Competetion and were in **top 20** among **2603 teams of 572 colleges** all over the globe
- Grade B in e-Yantra Embedded Mooc 2021
- Campus Ambassador at eYantra, IIT Bombay
- Winner of Code-e-Fest Competition in DDU annual festival (2021)

COURSES

- Embedded Systems and Robotics Mooc - eYantra IIT Bombay
- Practical Linux for Network Engineers - Udemy
- VLSI SoC Design using Verilog HDL - Maven Silicon

OTHER PROJECTS

Px4 autopilot drone simulation using ROS

Nov 2021 - Dec 2021
link

- Technology: Robot Operating system, Python, Bash
- Achieved autopilot control for traversing the drone
- Connected the simulation environment with QGroundControl application using ROS

Crypto and Stocks Analysing Bot

Oct 2021 - Nov 2021
link

- Technology: Django, Redis, Docker, TALib
- Realtime data fetching and applying technical indicators on selected symbols
- Backtesting of custom strategies and displaying result on charts

Abhiyanta Community Website

Jul 2020 - Oct 2020
link

- Technology: React, Git, Github, Firebase, CI/CD
- Learnt to host the website on firebase
- Used github for automation and continuous deployment

Personal Website using bash and markdown

Mar 2021 - Apr 2021
link

- Technology: Bash, Markdown, Git, Github, CI/CD
- Achieved the goal of a minimal static site generator using bash and markdown files
- Automated CI/CD with github actions and hosted on github-pages

Jellyfin Media Server using resberry-pi3

July 2022 - Aug 2022

- Technology: RespberryPi

EXTRA-CURRICULAR ACTIVITIES

- Technical blog and documentation writing
- Tweaking linux desktop environments
- Public Speaking