

# Drupad Joshi

[drupadjoshi64@gmail.com](mailto:drupadjoshi64@gmail.com)

Mo: +91 8000010507

## Summary:

- A competent post graduate from vector India, Bangalore with more than 2.5 years of experience with convincing expertise on C, Embedded C and Data structures with the cross platform Linux Environment
- Fair Knowledge in operating system concepts
- Strong debugging and problem solving skills in run-time issues
- Basic knowledge in Python, Shell scripting and Makefiles
- Hands on working experience in Yocto and Petalinux build system
- Exposure of basic Linux device drivers in IP project with one specific I2C driver
- Proficient in using development tools like Github and Jira

## Work Experience (2.5+ years)

**Softnautics** | Designation: **Associate Software Engineer**

[July '19 -Present]

1) **Project:** Xilinx VCU( Video Codec unit )

### Description:

- Xilinx Inc.is an American technology company, primarily a supplier of programmable logic devices
- This Project aims to integrate Display ports, Video codec, GPU drivers for Zcu106 Xilinx release board which includes features enhancement, Bug fixing, and functional testing

<b>Hardware Platforms</b>	Xilinx MPSoC: ZCU102, ZCU106, ZCU104, ZCU102
<b>Operating System</b>	Embedded Linux, Ubuntu, Windows
<b>Programming Languages</b>	C, C++(basic), Shell Scripts, python(basic)

### Roles and Responsibilities:

- Bug fixing in C in their existing code and file the Jira ticket
- Integrate a build in Petalinux or Yocto on daily basis and boot with Jtag and SD card
- Modification in petalinux build packages like adding QT application support and compile it for target board
- Functional level testing in RDI framework before delivering the code
- Part of CI team for adding new patches in master branch
- Debugging crash and major issues introduced during testing
- Automated the test cases of DP, GPU, VCU in shell scripting
- Conduct weekly meeting to report status of work on Skype

## 2) Project: Xilinx Memory Leak Detection Algorithm

### Description:

- VCU ( Video codec unit ) is a module, should be there in all production board of Xilinx
- Frequently hang issues found while Encoding and Decoding the raw video on board in a long run and over-night run
- Observing a huge memory leak with every new add on feature is a serious issue for customers. Every time to debug the whole code with Valgrind and Gdb tools is a time consuming process
- The idea is to develop a memory leak detector or a garbage detector at first stage of the project which tracks the memory allocated by malloc at run-time
- The future goal is to free the allocated memory automatically after work gets finished

### Roles and Responsibilities:

- Developing a C/C++ Library from scratch
- Integrating a library with Application which catches the memory leaks

## 3) IP Project: I2C Linux Driver

### Description:

- Get an overview of basic I2C specifications features and typical applications
- Understand how I2C works
- Master/Slave architecture
- What are the different modes of communication in I2C
- Know about hardware configuration, hardware signals, logic levels
- Know about message format, start/stop conditions, ack/nack
- Know about clock synchronization, bus arbitration and clock stretching

## Personal Information:

- **Name:** Drupad Joshi
- **DOB:** 23<sup>rd</sup> March, 1994
- **Languages:** English, Hindi, Gujarati
- **Address:** 90, Sharad nagar society, near Geb, Tarsali, Vadodara – 390009. Gujarat
- **Current Employer:** Softnautics LLP

## Character Reference:

1. Chirag Swarnkar  
Manager, Softnautics, Ahmedabad, Gujarat, India  
Mo: +91 9687612840
2. Dhaval Shah  
Technical Lead, Volansys, Ahmedabad, Gujarat, India  
Mo: +91 909979679

I hereby declare that all the information given above is true to my knowledge

- Drupad Joshi