Mehul Prajapati
Embedded Linux Developer
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Education

- **Dharmsinh Desai University** Nadiad
  B.E. Electronics and Communication *2008 - 2012*

Work Experience (3.6 years)

- **Upwork** *Freelancer, September 2016 - present*
  - Working on web development projects. (Python, Django, OpenCV)
- **Mobile Internet India Pvt Ltd.** *Embedded Engineer, April 2016 - present*
  - Working in a Protocol Stack Development team.
- **Volansys Technologies Pvt Ltd.** *Embedded Software Engineer, October 2014 - July 2015*
  - Contributed in Board bring up activity.
- **eInfochips Pvt Ltd.** *Embedded Software Engineer, January 2014 - October 2014*
  - Worked on Linux kernel porting and customization.
- **Matrix Comsec Pvt Ltd.** *Software Developer, August 2012 - January 2014*
  - Upgrading Telecom products with new features as per requirements.

Technical Skills

- **Programming Languages:** C, C++, HTML, CSS, JavaScript, XML
- **Scripting Languages:** Linux Bash Shell, Python, Selenium Webdriver, Tcl-Tk
- **Database:** SQLite, MySQL
- **Web frameworks:** Django, Angular2.0
- **OS:** Linux (Ubuntu), Windows
- **Linux Programming:** Multithreading, IPC, TCP/IP Socket Programming, Cross building, Makefile
- **Version Control Systems:** git, svn
- **Bus Protocols:** SPI, I2C, CAN, UART
- **Network Protocols:** HTTP, TCP, UDP, FTP, Radius, Syslog, SNMP
- **Development boards:** Raspberry Pi, Beaglebone Black, TM4C123, Intel Galileo
- **Software Tools:** Eclipse CDT, Keil μVision 4, Visual Studio Code, Code Composer Studio, vim, QT Creator, gdb

Organizational Skills

- **Analytical Skills:** Developed during my employment when I was responsible for product feature feasibility.
- **Teamwork and Task Estimation:** Skills acquired at university by doing curriculum projects in small teams.

Other Skills

- **Swimming, Chess:** Active member of sports club
- **Puzzle Solving, Competitive Programming:** Practicing as an independent

Achievements & Awards

- Got National Merit Scholarship from government of India for achieving excellent grades during under-graduation.
- Won Volansys Box Cricket Tournament and stood man of the match.
- Student Talent Award, Torrent Power Ltd.

Volunteer

- **Python Express** *Mentor, Sept 2016 - present*
  - Guiding university students to get a kickstart into the world of Python.
- **Mozilla** *Firefox Student Ambassador, July 2016 - present*
  - Actively participating in mozilla community meetups and events.
  - Contributing to various mozilla open source projects on GitHub.

Courses

- **edx:** Learning-how-to-learn, Embedded Systems, Realtime Bluetooth Networks
- **Coursera:** Machine Learning, Algorithms: Design and Analysis, Introduction to the Internet of Things and Embedded Systems
- **Goethe Zentrum:** German language (Level - A2)

Major Projects

- **Embedded SMS Server**

  A customer had requested a feature in the Matrix IP-PBX products to convert the SMS to Email and Email to SMS. The project involved adding the required features by following SMTP and POP3 protocols.

  - Development of SMS PDU Encoding & Decoding module by following GSM 3.40 standard.
  - Development of SMS sender, SMS receiver & SMS delivery modules to handle all SMS related activity on the system by using finite state machines.
  - Development of algorithm that handles multi part SMS in SMS Receiver module by using linked list data structure.
  - Development of System timer, syslog & message queue software modules.
  - Development of bash shell scripts and Makefiles to cross compile software modules.
  - Development of wrapper module using libiconv open source library to encode/decode UTF-8 characters.
  - Software Design & QA release documentation.

- **Real time IP data traffic accounting**

  Accounting IP data consumption of users and showing its real time graph on web application.

  - Configuring and setting up PMacct utility on Ubuntu server.
  - Development of Radius protocol dissection module for authenticating users.
  - Integrating Radius decoder module into PMacct.

- **Thin client on ARMv7 based development board**

  - Porting of Ubuntu 12.04 file system and board support package on ARMv7 based development board.
  - Bug fixing in GPU linux device driver.
  - Implementation of hot plug HDMI event by using udev rules.

- **Analyze marine sensors data over the internet (IoT)**

  Fetching marine sensors data from CAN bus and sending it over the internet.

  - Board Bring up of TI AM335x Cortex-A8 industrial application based development board.
  - Porting customized Linux Kernel 3.2 on TI AM335x Cortex-A8 based development board.
  - Development of SQLite wrapper utility which manages data in SQLite database.
  - Setting up Canboat utility which fetches NMEA2000 compliant marine sensor data from CAN bus, decodes it and sends it over TCP/IP network for analysis.

- **Computer Telephony Integration**

  This project involves the development of TSP (Telephony service provider) driver for Matrix IP-PBX products.

  - Development of TCP socket client application which sends proprietary protocol data.
  - Development of Windows Registry module which would add/modify the configuration of any software installed in the windows system.
  - Development of CTI wireshark dissector which decodes proprietary protocol data for analysis.