Kiran Puranik

(+60) 164-699-641 | **mail2kpuranik@gmail.com**

Degree: **Bachelor of Engineering (B.E),** in **Electronics and Communications**

GitHub.com/**gkiranp** | Skype: **talk2kirangp** | Linkedin: **kiranpuranik**

DOB: **27 July 1986** | Residence: **Penang, Malaysia** | Nationality: **Indian**

Address:
Persiaran Bayan Indah 3,
Bayan Lepas, 11900
Penang, Malaysia

EXPERIENCE

UST Global Sdn Bhd, Penang, Malaysia - **Sr. Technical Analyst**

APRIL 2019 - PRESENT [Senior Technical Analyst]

APRIL 2017 - MARCH 2019 [Technical Analyst]

Role: Tech Lead/Senior Developer | Responsible for coordinating with team and making sure technical projects are completed and delivered in time. Also responsible for the design and developing C++ based embedded system safety-critical software in Trainborne project.

- Developed EN50128 safety standard module 'System Mode and Redundancy' using C++, which handles different system modes of transitions, like normal, degraded, fail-safe modes, during runtime. Module also interacts with different components, like Health Monitor, Radio Comm etc, in-order to find health status and communication status, depending on which the module decides the operating mode. The module has a decision-making factor, which is programmed for redundant system to takeover if running system breaks the communication.
- Developed different communication modules using C++, like Computer Aided Dispatch (CAD) parser, which interacts with external CAD system using Motorola DIMETRA radio network, for voice and data communication and also two communication protocol wrappers, TRCP Protocol Handler, TCI Protocol Handlers, which in underneath uses Motorola standard SBEP serial protocol to communicate with external interfaces like TETRA modem, TRCP hardware and for communication between two TCI devices.
- Developed Health Monitor module, using C++ and observer design pattern, which monitors voltage, current and temperature levels and providing subscribe and receive health status of system for different module-level interaction.
- Designed and developed a module Test Framework using Python and pySerial library interface, to perform command based testing of different components in TCI, later, same framework is utilized for Test Automation in CI/CD purpose.
- Developed User Input Manager module using C++, which provides interface to different User Input types, including KeyController inputs, GPIO based inputs and Simulator based software inputs. The module is flexible to detect plug-in and use any supported input types.

Tools and Technologies: C++03, C++11, Python-3, VxWorks RTOS, Kontron hardware, LDRA, Design Patterns, Qt4, EN50128, MISRA, Adaptive AUTOSAR, Agile-Scrum methodology

Achievements:
- I have been awarded twice for '*Best Project Award*' and '*Recognition for Putting Client First*' in the year 2018
- Taken part in design FMEA process and suggested System Mode and Redundancy module addition into the project
- Successfully helped in integrating LDRA testbed for Static and Dynamic analysis purpose
- Mentored team members to achieve and complete their task; played the role of both Scrum-master and Agile developer.

Siemens Technology, Pune, India - **Associate Consultant**

AUGUST 2014 - MARCH 2017

Role: Senior Development Engineer | New feature development, bug fixing and maintenance of "Airlink" - a WiFi based embedded system software for Train Communication.

- Handled implementation of WPA2-PSK security feature in TU and AP using IEEE standard WPA_Supplicant and Hostapd packages, which enhanced security in wireless connectivity.
- Compiling and upgrading existing Linux Kernel of Airlink software, which in-turn involves upgrade of supporting open-source packages in *Linux From Scratch*.
- I have introduced *ebtables* a filtering tool for a Linux-based bridging firewall inorder to filter out unwanted network traffic, hence including another level of network security.
- I have fixed bug related to Frequency to Channel conversion for custom licensed wireless band in Linux Kernel; fixed bug related to system logging, by implementing "Observer pattern" in C++; fixed bug related to watchdog and cgroups in running system.

Tools and Technologies: C, C++, Linux From Scratch, Design Patterns, WPA_Supplicant, Hostapd, Network Routing, iptables, ebtables, IPSec, Linux Kernel, Linux Wireless.

Achievements:
- Helped in resolving long time pending security issue by introducing WPA2 wireless security..
- Successfully delivered product to many metro and subway lines in Europe and Asia.
- Helped client manage their legacy software and to upgrade them when required.
- Helped in documenting activities and modules using *Thematic* approach.

SKILLS

Embedded System
Application | Middleware | Firmware
(9+ years)

System Programming
in Linux & Unix based
(11+ years)

C++11 *(5+ years),*
C++03 *(11+ years)*
C *(11+ years)*
Python *(5+ years)*
Qt 4.x/5.x *(7+ years)*
Android NDK *(4+ years)*

Safety Standards:
EN50128, IEC 61508,
MISRA, Adaptive AUTOSAR

Design:
STL, UML2.0,
Algorithms, Data Structure,
Design Patterns, Multi-process,
Multi-threading

Embedded Protocol:
SPI, I2C, UART, CAN, USB2.0

Development:
Agile, TDD, SDLC

Operating System:
Linux, VxWorks,
Android, Windows

Build, CI/CD and Tools:
Build - Yocto, Cmake, Makefile
CI/CD - Jenkins
Tools - GoogleCPPTest, Git,
LDRA Testbed, JIRA,
BitBucket

Project Management:
Design FMEA, SOW, HLD,
Architecture Design, Code
Review, Requirement Analysis,
Requirement Management

Soft skills:
Communication, Leadership,
Adaptability, Problem Solving,
Time Management, Teamwork,
Patience, Critical Thinking

LANGUAGES

English | Expert
Kannada | Native
Hindi | Expert

UST Global, Bengaluru, India - **Sr. Product Dev Engineer**

MARCH 2011 - JULY 2014

Role: Senior Programmer | Design and Development of Multi-platform (viz. Linux, Win, Mac and Android) Software tools, Libraries and Drivers using technologies C++ and Qt.

- Design and development of Thermal Analysis Tool, which is used to categorize thermal capabilities of mobile platforms across different OSes.
- Design and development of MSR Read Write tool, which is used to read-from or write-to Model-Specific registers for different Intel platforms.
- Designed and developed Linear Graph Package, which is a customization of graph module completely designed in Qt (without OpenGL). It supports customization of graph properties and layout, adding and deleting any number of graphs to layout at runtime.
- Design and development of Frequency Display tool, which is used to display all processor frequency value, graphic frequency values and memory frequency values.
- Assisted in integration and debugging MeeGo OS for Tablets running Intel Atom based Processor and Linux Kernel.

Tools and Technologies: C, C++, Qt, Makefile, Code Collaborator, TeamCity, Perforce, followed Agile methodology.

Achievements:

- Received recognition for *'Best Execution Mindset*' award
- Successfully helped client in developing common code tools which can run on Linux, Windows, Mac and Android OSes
- Mentored juniors to learn and achieve their tasks along with my own tasks

ASL Advanced System, Bengaluru, India - **Project Engineer**

FEBRUARY 2010 - FEBRUARY 2011

Role: Software Developer | Design and Developing embedded software, embedded protocols and Device Driver in Linux, for vehicle tracking systems.

- Worked on IVTS (Intelligent Vehicle Tracking System), which has built-in GSM and GPS modules for communication with Control Station Server. I have led a fresh embedded team in designing a touch sensitive based GUI using Qt and C++. I have also assisted in Cross Compiling Linux Kernel for ARM9 architecture.
- I am involved in complete design and development for Wagon Tracking System (WTS) application logic, board bring-up and BSP drivers for embedded system unit. Device has in-built GSM, GPS modules and in-house battery charged through solar panel. It has an intelligence of power-shutdown, to hold GSM messages in non-coverage areas and self-monitoring of battery charge and overheating.
- I am involved in FOG PASS 1010 project for developing BSP driver for USB Host 2.0 feature on ARM7 and designed FAT32 file system for mass storage device support in embedded unit.
- Other responsibilities were writing maintainable and extensible code in a team environment; consulted regularly with customers on project status, proposals and technical issues; directed software design and development while remaining focused on requirements.

Tools and Technologies: C++, C, Qt, OOPS, ARM7, ARM9, Linux Kernel, USB 2.0.

Achievements:

- Successfully completed tasks on time and helped organization to meet release-timeline for products
- My contribution to USB2.0 host protocol for mass storage device was specially commended by leads

Advay Solutions, Bengaluru, India - **Software Engineer**

OCTOBER 2008 - FEBRUARY 2010

Role: Embedded System Programmer | Started career as embedded engineer, and wrote maintainable and extensible code in a team environment.

- Worked in design and development of embedded software for CAN 2.0A/B protocol implementation, RF Modules and Bluetooth module for wireless transmission and Reception of Digital Data.
- Involved in developing Electronic Billing Machine (EBM), a consumer product, which prints formatted electronic bills and help to store bill information.

Tools and Technologies: C, C++

Achievements:

- Successfully completed tasks on time and helped organization to meet release-timeline for the products

EDUCATION

Visvesvaraya Technological University, Belgaum, Karnataka, India

Bachelor Of Engineering [B.E] | **Electronics and Communication** [EQF level 6]

June 2004 - July 2008