

Shrikant 

C++, C#, Python, Win32, WPF, 16+ years Software development.

Current Designation: N/A

Total Experience: 18 Year(s) 0 Month(s)

Current Company: N/A

Notice Period: 1 Month

Current Location: Pune

Highest Degree: PG Diploma [Computers]

Pref. Location: United States (US),INDIA

Functional Area: IT Software - Application Programming / Maintenance

Role: Software Developer

Industry: IT-Software/Software Services

Key Skills: win32,dicom,medical imaging,2d 3d cad,semiconductor manufacturing,com,wpf,uwp,wafer metrology,cognex,stereo camera,hardware-software interfacing,image inspection,medical devices,plc software interfacing,software licensing,qt,c#,c++,mfc,Python

Verified : Phone Number | Email - id

Last Active: 20-Jan-21

Last Modified: 18-Jan-21

Summary

Hands on Principal Engineer with coding and implementation of features all through software development lifecycle, spanning: Conception, Requirement Capture, Specifications, Architecture, High/Low Level Design, Prototype Development, Work breakdown structures, risk mitigation measures, creating technology and functional Roadmaps.

Gap analysis, working with C++, C#, Python, Win32, and allied technologies

co-ordinating global team efforts, competitive analysis, liaising with other business units/organizations.

Work Experience

N/A as N/A

Mar 2020 to Till Date

A semiconductor manufacturer in CA US as Lead software engineer contractor Product Development

Jun 2018 to Feb 2020

Consulted with a semiconductor manufacturing company. They make Hard disk storage devices, used in computers, Storage network servers, Data centers etc. It is a part of the Electronic device manufacturing industry the likes of Integrated Chips, Photolithography, metrology, host process automation etc.

The work involves:

- Designing / architecting and Programming to implement software systems for the Semiconductor industry in manufacturing of silicon devices.
- Prototyped an app for manual inspection of wafer images using Universal Windows Platform - UWP, and another prototype in Xamarin, coded in C#. Implemented various effects like zoom, rotate, emboss, Sepia, Tint, Temperature, Sharpness, edge detection, for image rendering and inspection. The app works on windows tablet, portable devices, fetching images over the intranet and allowing updating inspection / analysis results into DB2 databases leveraging a legacy COM library. Developing a production grade application in WPF for actual use on existing desktop machines, using REST API for communication. This is intended to be used with various Manufacturing execution system [MES] for multiple wafer size products, factory host automation to deal with machines from different vendors.
- Developed data pipeline to port wafer metrology data over into Machine Learning Engine. It is in C#, multi-threaded, runs continuously via windows scheduler.
- Implemented an enterprise platform for executing the whole workflow starting from acquiring images from Metrology tool, to servers, intranet routers, image processing with Cognex AI, putting results into the Engineering data collection database, Statistical data analysis. This uses Cognex ViDi, Vision-Pro for processing semiconductor wafer images for

various processes. It uses trained models for OCR ? Optical Character recognition, various defects in the wafer manufacturing. The OCR is read back as a string and then fed into system controls for identification. It uses C# dot net core, Task parallel library, remote execution.

Environment: C# dot net, WPF, UWP, COM, XML, Cognex ViDi, Vision-Pro, task parallel library

An semiconductor OLED display manufacturer in CA US as Lead software engineer contractor product development Dec 2017 to Apr 2018

Consulted with a manufacturing enablement company that makes electronic digital displays using OLED technology used in electronic machines, mobile phones, handheld displays, TV etc. It is a part of the Electronic device manufacturing industry that makes displays which could be bent, rolled, folded, combined with the rich display capabilities of the OLED ink printed technology.

The work involved:

- Designing / architecting and Programming to implement computer integrated manufacturing software systems for the Semiconductor industry.
- Creating "Recipe" document, overview and detailed steps, for the workflow specifications and implementation sequence to drive a particular product processing.
- Implementation of Programmable Logic Controllers from Mitsubishi, MelSec. Coding messaging system, handling signal values in shared memory addresses of the Melsec.
- Implementing the Computer Integrated Manufacturing workflow in tandem with Robot movements, firmware, and processing of the raw product from one step to the next, through various units like Ink-Printers, Rapid-Vacuum-Drier, Vacuum-Cold-Drier, robot grippers and movement controllers, Temperature and pressure controllers and sensors, operating valves to open and/or shut the gates of individual chambers and allied mechanical manufacturing processing automation using PLC and host computers .
- The coding is in C# using WPF, MEF, React, observers / subscribers, dot net framework
- Brainstorming new concepts, coordinating global diverse teams for software and hardware, with marketing managers stationed internationally at customer Fab/Factory.

Environment: C# dot net, WPF, MEF, PLC - Mitsubishi-Melsec, XML, Windows OS.

A mortgage insurance company in CA US as Lead software engineer contractor services integration Jan 2017 to Dec 2017

The company aims at automating the mortgage solutions. Lenders originate, underwrite, and close loans using one system. My work deals with the integrations between Encompass, and the customer software applications.

The work involved:

- Working with multiple partners of the company and creating integration systems with Encompass, for them. Coding is in C++, VC++ MFC, Win32, or C#, Winforms, WPF based on customer needs. XML based interface generation, and manipulation via code.
 - Supporting the pre-deployed integration software at customer locations for trouble shooting, usage pattern analysis.
 - Maintain and enhance the integrations per customer demands, or new requirements based on the MISMO. Protocol definitions for the Mortgage industry.
 - Working with visual studio 6.0 through 2017. Using Visual Source Safe 6.0 through latest TFS. Making new builds, release management, custom development.
 - Working with globally distributed team of over 10 engineers, and devops for implementation and delivery
- Environment: C, C++, VC++, C# dot net, WPF, XML, Win32 SDK, STL, MISMO, visual studio 6.0 through visual studio 2017.

Facebook as Lead software engineer contractor product development Nov 2016 to Dec 2016

Lead Software Engineer Aquila consulting Menlo Park, CA, US

Facebook had a project for dynamic airborne transmission system. It had an earth station linked to the airborne transponders that would receive signals. This was a Proof of concept prototyping project intended to be translated into commercial product in the future.

The work involved:

- Creating a Flask server on Ubuntu Linux to connect to the hardware. Connecting the Flask server to Firmware API in Python. Used Postman to post messages to the server.
- Creating JSON objects to pass data and commands between the UI and the Server
- Creating a RESTful API to expose methods in the server, to the GUI access.
- Creating webpages in HTML, CSS, div, tables, form, with GUI entities to display the user.
- Writing JavaScript functions to process the data from HTML, and send to the RESTful API, get the response back from the server and populate on the HTML GUI display.

Environment: HTML5, CSS, JavaScript, Python, Flask, Postman, Ubuntu-Linux, GIT.

A leading semiconductor chipmaker headquartered in Santa Clara CA US as Lead software engineer contractor product development Jan 2016 to Nov 2016

Lead Engineer Real Sense Camera Systems, consulting Santa Clara CA, US

Intel® RealSense™ camera fits three cameras that act like one; a 1080p HD camera, an infrared camera, and an infrared laser projector-they "see" like the human eye to sense depth and track human motion.

The work involved:

- Working with stereo cameras of Intel and writing software for testing / benchmarking.
- Liaise with teams in Israel and China for constituent components and dependencies.
- Supporting the manufacturing software at remote customer locations for trouble shooting
- Maintain and enhance the camera calibration, lens-shading, and performance software.
- Adding hardware support for new devices and enhancing related software and firmware.
- Making builds, Installshield, release management, custom test application development.
- Workflow modules written in C / C++ / C# are connected using Python. Interfaced the embedded firmware API with application software. The C++ process invokes a call to Python and that in turn spawns the next module. There are object as well as procedural implementations, of Python. Using MIPI interface.
- Multiple Packages are used as wheels. There are checks during the installer run, which check for the presence of various Python Packages. If absent, these packages are downloaded from standard Python servers and installed in the background.
- Low-level machine firmware access scripts are written in Python. These scripts tap the hardware, ascertain version, and write a matching Firmware, do other initialization routines needed for the unit to become accessible. Python version 2.7 was used.
- Arduino Robot was used for dynamic luminous calibration. Arduino IDE was used to code robot motion using Ubuntu OS.

Environment: C, C++, VC++, Win32 SDK, STL, Python [lxml, pil, cx-freeze, pytz, shutil, subprocess], Installshield, Ubuntu, SWIG, MIPI interface, stereo camera certification.

A leading medical imaging healthcare company in Pleasanton CA US as Lead software engineer
contractor product development
May 2013 to Apr 2014

Lead Software Engineer [consulting], San Ramon CA, US

G E Healthcare has a product for cancer detection named MultiOmyx, see multiomyx.com. It makes the cell-imaging product for cancer analysis. Tissue samples from patients are treated with biomarkers and imaged at varying magnification to generate stained images of various types. It is based on fluoroscopy with near-confocal microscopes for high content screening of cells, multiplexed assays, FISH, tissue micro-array studies.

The work involved:

- Sifting through all stages of the SDLC and implement the image acquisition system.
- Interfacing software applications with OEM embedded firmware for different types of Fluorescent microscope imaging systems like InCell-2200, calibration, acquiring images, using C++. This was a class-2 medical device though in pre-certification stage.
- Passing raw images through the image processing libraries using C++, C#, processing images through user quality acceptance workflows using C# winforms UI.
- masking grid on images and allowing to select specified regions of interest, or scan the whole slide at a low resolution, and present the image to the Digital Pathologist, for marking the desired regions of interest to image further.
- generating different types of images, and encoding them based on various biomarkers and magnification
- The image acquisition system was refactored anew in C++, than the prototyped version
- The primary connection between the software and the imaging machine was over TCP/IP and C++. Coded Interfaces, classes, functions to implement them. This formed the major "driver" layer that connected the systems, objective was acquisition of raw images from the sensor.
- External libraries from the NI [National Instruments] were also used.

Environment: C, C++, STL, C# Dot Net 3.5, NI libraries.

A medical Pharma drug discovery company as Software Engineer Product Development
Sep 2012 to May 2013

Software Development Engineer, Sunnyvale CA, US

Danaher makes high-performance bioanalytical measurement systems for genomic and cellular analysis and enable customers to improve research productivity and effectiveness, which ultimately accelerates the complex process of discovering and developing new drug compounds.

The work involved:

- Ideation, prototyping, developing new features, fixing defects, unit tests, test automation.
- Enhancements to workflow parameters of the assays like; pump pressure, axial traversal movement control of the stage, and modifications to the wait times on various operations. This was implemented as software features calling the firmware API exposed by the vendor supplied control system. The feedback looping gave the delta for the motoring operations.
- Learnt and Prototyped the web based software product licensing system using Safenet HASP. It was server connected and test piloted for production successfully. The implementation was largely in c# dot net. The map data was tested to work successfully.
- Features closer to machine control were in C++, whereas those closer to UI were in C#.
- Interoperability was done using Runtime Callable Wrapper and COM Callable Wrapper.
- Biotechnology Assay data was displayed in chart controls in the C# dot net UI

Environment: C++, C# Dot Net 3.5, winforms, TFS.

A leading Medical imaging devices PACS company as Senior Software Engineer Product Development
Jan 2008 to Jan 2012

Senior Software Engineer, Foster City, CA, US

Product summary: iSitePACS a leading enterprise-wide medical image and information management

The work involved:

- Working with the programming skills as well as interaction with the various standards in the domain of Medical Imaging, Radiology, Mammography, Cardiology, DICOM files.
- Working with third party integration for iSite automation APIs. Enhanced existing Automation APIs in COM to perform new tasks. This involves interaction with COM automation, the IDispatch, OleControls, etc.
- The PACS system was connected to Class-2 medical devices as CT, X-Ray, MR, Ultrasound and all code was FDA audited and certified.
- Worked with functionality to display images in the proprietary hanging protocols of Philips iSite. Worked with Dicom Tags and their interpretation into appropriate metadata.
- Usage of various Dicom toolkits for uploading DICOM files to servers, testing validity and compatibility of Dicom files with other Dicom viewers, adding images to a suite.
- Pixel padding of image files to make them Dicom compliant.
- Worked with windows Crypto APIs to implement data security between any two endpoints, storing on media CDs, secured using Crypto API[MD5].
- Worked to fix multiple time zone issues. This corrected the values of date and time for every event in the medical workflow like scheduling of an exam, imaging, reading, reports, documentation, history, and audit data. The software was enhanced to have a correct date and time irrespective of any of the above events happening in the same or different time zones, with differing time offsets and daylight savings globally. Migrated C++ to C# as needed.
- Worked on SSL communication issues. Wrote sample code for calling COM APIs in JavaScript. Worked on feature Gaps, feature migration in various versions of iSite.
- Did project co-ordination, project tracking, towards a quality initiative project for creating System Requirement specifications, reverse-engineering, documentation of legacy code.
- Drove the task through technical analysis, project meetings with members from marketing, quality assurance, engineering, Quality and regulatory, third party interfacing getting all to arrive at a consensus over various issues related to the functionality.

Environment: C++, Visual C++, Win32, MFC, STL, COM, C# Dot Net, winforms, DICOM, HL7

Siemens as Lead Software Engineer Product Development

Nov 2003 to Aug 2007

Lead Software Engineer, Pune, India.

1. Solid Edge: A 3D CAD software to design products like cutting tools, plastic moulds, products, assemblies using computer graphics, geometric modeling and PDM integration.
2. Insight Connect: A PDM solution that seamlessly integrates CAD, design management and web-based collaboration into a single tool.
3. Teamcenter integration: This is an interfacing between SolidEdge and Teamcenter (PLM).

Responsibilities

- Used a wide range of VC++'s MFC classes for GUI related for geometric views, displaying CAD models, debugging, exception handling and more. Added Win32 Callback functions, and window procedures to address callbacks.
- Automation API enhancements - Worked in Automation technology using VC++: COM to help third party applications interface CAD API's; used IDispatch, and implemented through COM Objects. Handled Synchronization of Custom Document properties in Teamcenter and SharePoint servers through Solid Edge. Added document properties in {IStorage Interface - COM}
- Licensing implementation refactoring in Solid Edge - Used licensing vendor FlexLM to implement license checks at the product startup and usage. Implemented sub system for checking specialty component variant licenses. Sensitive data was secured by Crypto API using MD3.
- Sensor violation improvements - Added MFC provided CDialog objects. Embedded an HTML custom control into this dialog object. Familiarity and usage of various design patterns like singleton, Factory pattern, Observer, visitor, adapter and more, during working with the code.
- Enhancements to automatic messaging framework of Solid Edge, worked on SDK callback functions to pass event messages from GUI to the CAD kernel and revert with return codes from the kernel. Worked with the Parasolid kernel for geometry functions.
- Created new SharePoint sites, added document libraries, created/deleted users, assigned and modified user roles and permissions at the site level as well as the document library level.
- Added C# code to existing API for validation of SharePoint user. Checked if this user was a valid user for the SharePoint document library
- Created custom DLL for SharePoint web-parts, added them to GAC and used them for providing new functionality in the SharePoint portal through webparts. Made the required changes to the SharePoint site and XML files, for the new webpart on the portal.
- Lead agile team based on the need of time and scope of the functionality being developed for the next release of the product.

Environment: C, C++, VC++, Win32, MFC, STL, COM, C# Dot Net 2.0, winforms, Microsoft SharePoint, Windows SharePoint services 3.0, CAD API/customization/interfacing, Windows OS.

A demand forecasting product company as Software Engineer

Sep 2000 to Jan 2003

Software Engineer, Pune, India

E-Yield Revenue Management product, doing statistical data optimization

- Resolving escalated problems, sanity tests, synchronization of databases with client data, testing message flows in batch mode, writing test cases, test suites, test plans.

- Understanding requirement specs and sampling out specific failure scenarios, liaising.
 - Test execution (unit, integration, regression testing of product releases), defect reporting.
- Environment: Win 2000/NT/95

Education

UG: **B.Tech/B.E. (Mechanical)** from **Nagpur University** in **1997**

PG: **PG Diploma (Computers)** from **IBM Educational Services** in **2000**

IT Skills

Skill Name	Version	Last Used	Experience
C++		2020	17 Year(s)
Python		2019	3 Year(s)
COM		2014	9 Year(s)
C#		2020	15 Year(s)
WIN32		2020	10 Year(s)
DICOM		2013	5 Year(s)
UWP		2020	1 Year(s)
WINDOWS SHELL PROGRAMMING		2013	9 Year(s)
Medical Imaging		2014	7 Year(s)
Semiconductor Imaging		2020	3 Year(s)
2D 3D geometry		2007	4 Year(s)
CAD Software development		2007	4 Year(s)
PLC message mapping C#		2018	0 Year(s) 4 Month(s)

Languages Known

Language	Proficiency	Read	Write	Speak
English	Proficient			

Affirmative Action

Category: General

Physically Challenged: No

Work Authorization

US Work Status: Have H1 Visa

Countries: India,United States

Job Type: Permanent / Temporary

Employment Status: Full Time, Part Time