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Summary

An organised, meticulous, and resourceful software engineering with a focus on building distributed systems.

It has been 10 years since I picked up a book on C programming. Since then I have been led deeper into the fascinating world of software development. My discovery of Python was the second biggest turning point. This sparked my interest in Web Applications and subsequently Distributed Systems.

After obtaining a Bachelor's degree in Computer Science and Engineering I spent a year working at a consultancy. Here I got my first experience of participating in large projects and the responsibilities that come along

with it. After that I moved to a startup where I built web applications and started developing Android apps. After working for 2 years in the industry I decided to continue my education in Germany. Studying at TU Dresden in the Systems Engineering chair has given me a unique opportunity to participate in several diverse research projects.

Once I graduate I hope to work in an environment which fosters creativity and offers interesting challenges. Since I am a big proponent of open-source, I also wish that my work both utilises and contributes back to the community.

Experience

Netbramha Studios

Web Developer

Netbramha Studios is a design consultancy which develops aesthetic and content intensive websites. I was hired to handle the technical aspects: Maintenance of websites and minor front-end development. I also built websites using both third-party and in-house server frameworks. Used JQuery and Dojo for front-end development and also did some basic layout and styling with HTML+CSS. Later was given the task of developing a complete web-based front end for one of India's largest pizza delivery chains.

BANGALORE, INDIA

Oct 2010 - May 2011

Locus Labs

Web and Mobile Developer

When I joined Locus Labs it was an unseeded startup which developed apps for the up-scale and savvy shopper. The main product **Notikum** finds offers and bargains for shoppers based on their profile. This involved collecting data from hundreds of websites. Joined the team which scraped the data and indexed it with Solr. Concurrently developed and maintained the website for this service. The surge in mobile apps necessitated that an Android app be developed which I initially managed and later coordinated with new hires.

After the startup pivoted was given further responsibilities. I was put in charge of the development of the new product **Notiphi**. Location based advertising was the primary goal of this service. Designed and implemented the initial prototype. Also developed the tools needed for the deployment and monitoring of the cloud-based infrastructure. Leveraged my previous Android experience to develop the Android SDK which is used by third-party developers to integrate this service into their apps.

BANGALORE, INDIA

Jun 2011 - August 2012

DMFS

Application Developer

DMFS develops data sync applications for the Android platform. I worked on the development of the **Tasks** app which uses the CalDav protocol to sync calendar data. This app was subsequently open-sourced and available on **Github**. Was also part of the team which developed an Android based **Calendar Store**.

But my primary role was as a Django developer. Developed a web service for the bulk-retail of mobile apps. The service used OpenSSL cryptography to sign and verify the source of the sold apps. Only apps with a valid key issued from the website could be activated. Also developed the Android SDK which integrates with existing third-party apps to provide this functionality.

DRESDEN, GERMANY

Jan 2013 - March 2014

INQUENCE GmbH

Systems Developer

INQUENCE develops a complete hardware and software solution for offices, for the storage and search of the all types of physical and electronic documents. Was responsible for the maintenance of the web front-end of this service and the addition of new features to it. The software solution consisted of several services which converted, indexed and stored the data. Developed a monitoring mechanism for these services using **Monit**. It keeps track of these services for all the individual hardware units and monitored for performance changes after software updates.

DRESDEN, GERMANY

Mar 2014 - Jul 2014

As a part of the [SREX\(Secure Remote Execution\)](#) project developed a translator for C programs. A source C program is translated into a subset of C which can be encoded with redundant operations to ensure correct execution even in the event of bit-flips or other random transient errors.

More recently I have been working with distributed coordination services like ZooKeeper and Consul. I have been evaluating the efficacy and characteristics of the respective protocols(ZAB and Raft). Also implementing new features in Kazoo, a Python client library for Zookeeper.

Please consult my [LinkedIn Profile](#) for references.

Education

BM Sreenivasaiah College of Engineering, Vivesvararya Technological University BANGALORE, INDIA

Bachelor of Computer Science and Engineering

2006 – 2010

Major in Computer Science with a focus on Computer Architecture. Was also an editor of the departmental newsletter and a regular contributor. For my final year project developed a Wi-Fi enabled robot which could be controlled over the Internet. It also had a plethora of sensors which guided in navigation and control.

Technische Universität Dresden

DRESDEN, GERMANY

Master of Science, Distributed Systems Engineering

2012 – 2014

Completed courses in Security and Cryptography, Software Fault Tolerance and Dependable Systems besides the mandatory courses. Also worked in the Systems Engineering Lab and Software Fault Tolerance Lab. Under the guidance of Prof. Dr. Christof Fetzer currently in the process of completing my Master's Thesis in Zookeeper scaling. The proposed solution partitions the namespace which increases the throughput and avoids the negative effects of horizontal scaling.

Projects

[JoQuer: Turbo frequency scaling libraries](#)

Current generation processors like the Intel Haswell series have the ability to temporarily boost the clock frequency through software. A C++ library was developed at the Systems Engineering chair at TU Dresden to provide this functionality to applications and manage the application threads. I constructed a Java library with a similar API. The library used JNI(Java Native Interface) to interact with the C++ library. After the library was implemented, benchmarked and recorded the results to compare the effect of boosting frequency in Java applications.

Studybloxx: Android list sync application (<https://github.com/arjunrn/studybloxx-server>)

For a course in Mobile Application Development my team developed an application for Android which syncs relational data across devices. The sync is performed through a Django web server using a REST API. To further improve the application functionality LibGit2 was cross-compiled to run on Android and sync data. Git is used to handle the issues arising out of concurrent modification of data from multiple sources.

Skills

Technical Specialities: I consider myself language agnostic. I quickly learn and put to use any programming language which is required for the task at hand. However, Python is my favourite and go-to language for most problems. I have used many Python based libraries and frameworks over the course of career. I sound knowledge of Django, Scrapy, Google AppEngine, Tornado, Fabric, pyOpenSSL. I have also a solid grasp of Front-End web technologies: HTML+CSS, JavaScript(jQuery, Angular.js). All my projects are managed through Git or Mercurial. I also have substantial experience developing aesthetic native Android applications. Most of my knowledge of Java comes from developing Android applications. Recently I have dabbled in Go and Haskell to solve some concurrency based problems for my courses. I have also used and configured databases like MySQL, PostgreSQL, MongoDB and Redis. For the past 6 years I have been using Linux both on servers and on desktops.

Natural Languages: English (*Bilingual Proficiency*), Hindi (*Native*), Kannada (*Native*), German (*Limited proficiency*).

Interests

Non-exhaustive and in no particular order: Science-Fiction, photography, hardware hacking, travelling, good coffee