

Developer,
SAP Labs India
Phone: +917899756010
E-mail: vivekzhere@gmail.com

Vivek Anand T Kallampally

INTERESTS

Cloud Software, Data Structures and Algorithms, Operating Systems, Embedded Systems, Computational Complexity

WORK EXPERIENCE

SAP Labs India.

Developer

Bangalore

25th July 2016 - Present

Virtual Machines as a Service

- Node.js, Golang, Cloud Foundry, Openstack, AWS
- Implemented an OSB compliant service broker for providing Virtual Machines as a Service on Cloud Foundry PaaS. Used Openstack and AWS to provision various infrastructure resources. Used nodejs and golang for this project which ran for around 18 months.

MongoDB as a Service

- Cloud Foundry, BOSH, Python, Shell, Ruby
- Part of the team providing MongoDB as a service on SAP cloud platform based on Cloud Foundry for a short period. Worked on a proposal for backup and restore of sharded mongodb clusters.

Postgresql as a Service

- Golang, AWS, Cloud Foundry, BOSH, Python, Shell, Ruby
- Part of the team providing Postgresql as a service on Cloud Foundry for a short period. Implemented HA setup for postgresql on AWS multi az scenarios.

Service Fabrik

- Cloud Foundry, Kubernetes, Golang, Node.js
- Part of service fabrik team, which is a generic OSB compliant service broker. Implemented a component which enabled service fabrik to work with any Kubernetes operator to provision services on k8s. Used golang in this opensource project. Project is hosted at github.com/cloudfoundry-incubator/service-fabrik-broker

Backing Services for K8S

- Kubernetes, Golang, Kubernetes Operator
- Currently part of postgresql for k8s team which is implementing a k8s operator for Postgresql on kubernetes.

Broadcom Communications Technologies Pvt. Ltd.

Engineer – Software Development

Bangalore

1st July 2013 - 4th July 2014

- Implemented a flow control module for Wifi Host Driver for PCIe based wifi chips.
- Implemented intra bss packet transfer in SoftAP mode for PCIe based wifi chips.
- Worked in implementing power save mode support in SoftAP mode for PCIe based wifi chips.
- Worked in designing the software architecture of a low power wifi chip.

ACADEMIC QUALIFICATIONS

Qualification	Institute	Year	Cumulative Grade/Percentage
M.Tech (CSE)	IIT Kanpur	2016	8.00/10 (CPI)
B.Tech (CSE)	NIT Calicut	2013	8.84/10 (CGPA)
XII (AISSCE)	St. Antony's Public School & Junior College (CBSE)	2009	92.6 %

Qualification	Institute	Year	Cumulative Grade/Percentage
X (AISSE)	St. Antony's Public School & Junior College (CBSE)	2007	90.2 %

SKILL SET

- **Languages** Golang, Node.js, C
- **Parser Generator** Lex, Yacc
- **Database** PostgreSQL, MongoDB
- **Web Scripting** Basics of PHP, HTML and CSS
- **OS** Windows, Linux

M.TECH THESIS

- Proved that for every language in NL there exists an unambiguous nondeterministic algorithm that requires $O(\log^2 n)$ space and simultaneously runs in polynomial time.
- Research paper titled "Trading Determinism for Time in Space Bounded Computations" published at MFCS 2016.

ACADEMIC PROJECTS

Experimental Operating System and Virtual Machine (July 2012 – May 2013)

- **Environment** C
- **Tools** Lex, Yacc

Design and implementation of an experimental operating system and underlying architecture with basic features like multiprogramming, virtual memory and file system as part of developing a complete coursework for Operating Systems Laboratory. The project is hosted at xosnirc.github.io. The project also included design and implementation of two language compilers, one for programming the operating system and one for programming application programs to run on this operating system.

Compiler (July 2011 – November 2011)

- **Environment** C
- **Tools** Lex, Yacc

A compiler for a Simple Integer Language (SIL). SIL included two basic data types Integer and Boolean, features like if, if-else, while, arrays and functions. Functions take any number of arguments and return a single value. Arguments can be passed by value or by reference. Function recursion is also implemented.

Bulls N Bears (September 2011 – October 2011)

- **Environment** HTML, PHP, CSS, MySQL
- **Tools** Adobe Photoshop

This project delivered the website <http://bullsnbears.tathva.org/>. It was a stock market simulation game as part of Tathva 11. The virtual market was synchronized with the actual NIFTY market. The players could buy, sell, short sell and cover equities over a period of 1 month.

Stegobot in Google Plus (September 2012 – October 2012)

- **Environment** Python, PHP
- **Tools** MATLAB

Implemented a Trojan Horse which steals saved passwords from Google Chrome, encodes them in images and spreads through Google Plus. The passwords are retrieved using a Google Plus / Picasa Application, which scans shared pictures for stolen passwords.

Emart (January 2011 – April 2011)

- **Environment** HTML, PHP, CSS, PostgreSQL
- **Tools** Adobe Photoshop

A simple Internet Shopping Platform. This project was done as part of undergraduate DBMS course.

Library Management Software (August 2008 – November 2008)

- **Environment** C++

A Library Management Software developed fully in C++. The database of the Software was implemented

using the 'file' feature in C++. This project was done as part of Computer Science course of class XII.

RELEVANT COURSES

- Approximation Algorithms
- Computational Complexity
- Computational Number Theory and Algebra
- Design and Analysis of Algorithms
- Linear Programming
- Maths for Computer Science
- Randomized methods in Computational Complexity

AWARDS AND ACHIEVEMENTS

- Filed for a patent around migrating virtual machines across IaaS
- Was awarded the meritorious 0.1% certificate by AISSCE and AISSE for scoring 100 in Mathematics.
- GATE 2013 CSE All India Rank 42
- GATE 2014 CSE All India Rank 86