S3 M.Tech Student,
Computer Science And Engineering,
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Vivek Anand T Kallampally

Interests:

Computational Complexity, Data Structures and Algorithms, Operating Systems, Embedded Systems, Web

Work Experience:

Broadcom Communications Technologies Pvt. Ltd. **Bangalore**
Engineer – Software Development ***1st July 2013 - 4th July 2014***

- As part of Board Support Package Team, assisted the Design Verification Testing Team by providing Command Line Interfaces for testing various hardware components.
- Worked in optimizing a Linux kernel module for flashing image to chip over PCIe interface.
- Worked in implementing a flow control module for Wifi Host Driver for PCIe based wifi chips.
- Worked in implementing 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:

IIT Kanpur, India	2014-Present
M.Tech. Computer Science and Engineering	: CPI 8.00
Courses Taken : Maths for Computer Science, Design and Analysis of Algorithms, Computational Number Theory and Algebra, Linear Programming, Approximation Algorithms, Computational Complexity, Randomized methods in Computational Complexity	
NIT Calicut, India	2009-2013
B.Tech. Computer Science and Engineering	: CGPA 8.84
St. Antony's Public School & Junior College, Kottayam , India	2007-2009
AISSCE from Central Board of Secondary Education (CBSE) (Std. XII)	: 92.6 %
AISSE from Central Board of Secondary Education (CBSE) (Std. X)	: 90.2 %

Skill Set:

Programming Languages	C, C++, Java, Python
Parser Generator	Lex, Yacc
Database	MySQL
Web Scripting	Basics of PHP, HTML and CSS
OS	Windows, Linux

Academic Project Details:

	Isolation Problem in Graphs
Organization	IIT Kanpur
Duration	January 2015 – Present
Description	Studying about possibility of derandomizing isolation lemma for graphs which will lead to efficient parallel algorithm for matching in graphs. Also exploring the possibility of computing a min unique weight function for graphs which will give a UL algorithm for reachability.

Guide	Prof Raghunath Tewari

	Experimental Operating System and Virtual Machine
Organization	NIT Calicut
Duration	July 2012 – May 2013
Description	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 xosnitc.github.io. The simulated machine architecture supported seven software interrupts, a timer interrupt and an interrupt which is triggered on exceptions. The architecture provided support for address translation and virtual memory. The basic addressable memory unit in the machine was a string and the architecture was called eXperimental String Machine(XSM). An operating system, XOS (eXperimental Operating System) was also developed for this architecture. 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.
Role	Coding and Documentation
Environment	C
Tools	LEX, YACC

	Stegobot in Google Plus
Organization	NIT Calicut
Duration	September 2012 – October 2012
Description	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.
Role	Implementation of the Trojan horse
Environment	Python, PHP and MATLAB

	Complier
Organization	NIT Calicut
Duration	July 2011 – November 2011
Description	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.
Role	Part of the 3 member development team.
Environment	C
Tools	Lex, Yacc

	Bulls N Bears
Organization	NIT Calicut
Duration	September 2011 – October 2011
Description	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.
Role	Part of the 3 member development team.
Environment	HTML, PHP, CSS, MySQL
Tools	Adobe Photoshop

	Emart
Organization	NIT Calicut
Duration	January 2011 – April 2011
Description	A simple Internet Shopping Platform. This project was done as part of DBMS course.
Role	Part of the 2 member development team.
Environment	HTML, PHP, CSS, PostgreSQL
Tools	Adobe Photoshop

	Library Management Software
Organization	St. Antony's Public School and Junior College, Anakkal
Duration	August 2008 – November 2008
Description	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.
Role	Developed the application.
Environment	C++

Awards and Achievements:

- 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