S4 M.Tech Student,

Computer Science And Engineering,

IIT Kanpur

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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:

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| 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:

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| 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:

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|  | 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 |

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|  | 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 |

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|  | 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 |

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|  | 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 |

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|  | 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 |

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|  | 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 |

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|  | 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