

## EDUCATION

Madison, WI	University of Wisconsin—Madison	Sept 2016 - Dec 2017
<ul style="list-style-type: none"><li>• <b>Master of Science</b> in <i>Computer Science</i>, GPA: <b>4.0 / 4.0</b></li><li>• <b>Courses:</b> OS, Topics in DBMS, Advanced-OS, Algorithms, Data Science.</li></ul>		
Mysore, India	Sri Jaychamarajendra College of Engineering	Aug 2010 - May 2013
<ul style="list-style-type: none"><li>• <b>Bachelor of Science</b> in <i>Computer Science</i>, GPA: <b>9.49 / 10</b></li><li>• <b>Courses:</b> Data Structures, Digital Design, Computer Organization &amp; Architecture, OOP, Software Engineering, Algorithms, Graph theory, Compilers, Finite Automata, OS, Networks– I &amp; II, Graphics.</li></ul>		

## EMPLOYMENT

R&D Engineer Software–I	Broadcom	July 2013 - Aug 2016
<p>I worked as Firmware Engineer on BRCM WiFi chipsets and as Linux driver developer on MIPI-DSI compliant display unit. My responsibilities included feature development, bug fixing and productization of chipsets.</p> <ul style="list-style-type: none"><li>• Developed new features and fixed bugs in display driver for productization of mobile devices that went into market with Samsung and HTC.</li><li>• Implemented and productized VSDB algorithms on 4358 and 4359 WiFi chipsets. Impact: VSDB–Virtual Simultaneous Dual Band–enabled multiple wireless network host interfaces on a single hardware.</li><li>• Bring up of VSDB in 43201 low-power chip, from ground up. Ownership of MSCH (Multi-Channel Scheduler) algorithms in 43012. MSCH–a central channel scheduler–bug fixes had great impact on other MSCH related teams and new chipsets. 43012 went into market as Samsung Gear 3’s WiFi unit.</li><li>• Implemented Auto-SHM (Shared Mem) feature by converting configuration values in macros to structure members to avoid ROM abandons. Impact: Saved wastage of RAM due to code abandons in ROM. This resulted in lower RAM requirement in future chips and hence, it lowered cost per chip to the company.</li></ul>		

## PROJECTS

- **Spark vs. Heron: Streaming Benchmark**—[GitHub](#)—10/2016 to 12/2016: A benchmarking suite to compare the performance of stream processing systems. Project concluded in results demonstrating Heron performing better than Spark. **Java**. Under the guidance of Prof. [Jignesh M. Patel](#).
- **Operating System Projects** in XV6 kernel—[GitHub](#)—09/2016 to 12/2016: [1](#)) Multi-level Feedback Queue Scheduler. [2](#)) Bash-like Shell implementation [3](#)) Shared Pages support in kernel. [4](#)) Kernel thread support [5](#)) File System checker [6](#)) Checksum protected file support. **C**.
- **Sudoku solver**—[GitHub](#)—04/2013: Set-Operations ( $\cup$ ,  $\cap$ ,  $\setminus$ ) based approach to solve Sudoku puzzles. With  $n$  empty cells and  $dXd$  grid (9x9 generally), recursive backtracking algorithm takes  $O(d^n)$  time. My algorithm took  $((n^2 + n)/2) * 6d \implies O(n^2 * d)$  time. **C++**, **Java**.
- **Basic SIC Assembler and Simulator**—[GitHub](#)—10/2011 to 11/2011: This project provides basic environment to run the hypothetical SIC (Simplified Instructional Computer) programs. **C++**.
- **Four Phased Image Compression**—[GitHub](#)—06/2011 to 08/2011: An Image (24-bit depth, RGB Image) compression tool which uses four pipelined stages from Compression: Aggregation, Bit Truncation, RLE and Huffman Coding. Compression of 84.37 % upto 99% was achieved. **C++**.
- **Remote System Tracker and Controller**—[GitHub](#)—11/2009 to 02/2010: A monitoring application which tracks the activities and controls computers in LAN. Features include screen capture, file transfer and remote login. **Java**.

## SKILLS

- **Languages:** C, C++, Java, Python, Shell Scripting.
- **Technology and Software:** GDB, MySQL, HTML & CSS, SVN/Git, Wireshark, gnuplot, dotty, ctags, cscope, Java Servlets,  $\text{\LaTeX}$ .
- **Operating Systems:** Unix variants, Windows.

## AWARDS AND ACHIEVEMENTS

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- Secured 10<sup>th</sup> rank in Bachelor's CET (Common Entrance Test) among 50,000 students (top 0.02 %).
- Awarded **twice** with “*Award of Recognition*” in Broadcom for the contributions towards VSDB & RSDB for 4358 & 4359 chipsets and, Ownership of ASDB for 4359 chipset.
- Awarded with “FedEx International Scholar of the Year 2016” Scholarship, Mumbai. [News link](#).
- Secured **First Prize** in the following competitions.
  - “Puzzle the Unpuzzled” at IISc by Department of CSA, Bangalore, Mar 2012.
  - “Top Coders” at AIT, Coimbatore, by Department of CS, Sept 2012.
  - C-coding conducted during Cyberia'12 by IEEE SJCE.
  - Night out C-coding contest conducted during Cyberia'12 by IEEE SJCE.
  - C-coding conducted during FOSSCamp'11 by GNU/Linux Campus Club (LCC) SJCE.
  - GLDB (GNU Linux Debugging) conducted during FOSSCamp'12 by LCC SJCE.
  - Gaming (Open Arena) conducted during Even semester event 2013 by LCC SJCE.
- Secured other prizes in the following competitions.
  - **Second** Place in X-Files Paper presentation contest conducted during Technologix'12 by CSI SJCE.
  - **Finalist** (top 7 teams out of 40) in Dennis Ritchie 'C'-coding competition at IISc by Department of Computer Science and Automation, 2012.

## MINI-PROJECTS

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- **8-bit and 16-bit Huffman Compressor**—[GitHub](#)—05/2011 to 06/2011: A Generic file compression tool based on Huffman Coding which uses 8-bits and 16-bits as sampling lengths for symbols. **C++**.
- **Online Coding Competition**—[GitHub](#)—03/2013: An web interface created for conducting C-coding competitions as part of LCC-SJCE. **Java Servlets**.
- **Self-Designed Generic Classes**—[GitHub](#)—2011 to 2012: This project contains two of the generic classes I have designed: Threads and String. Both of these classes can be used similar to Java Threads (Extend and override run method) and Java Strings (with concatenation, and other operator overloading) respectively. **C++**.
- **Round-Robin Schedule Simulator**—[GitHub](#)—12/2011: A tools which simulates the schedules of a Round Robin process scheduler. **C++**.

## VOLUNTEERING AND LEADERSHIP

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- A technical volunteer for LCC (Linux Campus Club)— A student body for promoting the use of open-source tools and technologies
- Conducted technical sessions to promote use of FOSS to students from other departments
- Have taught Computer Science courses like Digital Design, C Programming and Data Structures to Diploma (An associate degree) students.
- Conducted three coding competitions as part of LCC's FOSS camp and FOSS bytes events.
- Donated 20,000 INR every year to “Hoysala Karnataka Sangha” to aid under privileged children for their education.