

Kajal Varma

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EDUCATION

- Birla Institute of Technology and Science, Pilani, K.K. Birla Goa Campus, India** Aug 2012 – May 2016
- **B.E. (Hons.) Computer Science, CGPA: 8.64 / 10.0**
 - Courses: Operating Systems, Computer Architecture, Data Storage Technologies and Networks, Computer Networks, Data Structures and Algorithms
- National Public School, Indiranagar, Bangalore, India** Jun 1998 – Mar 2012
- Grade XII: 97.6%, Grade X: CGPA 10.0 and percentile 99.9946

PUBLICATIONS

K. Varma, G. Patil and B. Raveendran, "DTLB: Deterministic TLB for Tightly Bound Hard Real-Time Systems," 2017 30th International Conference on VLSI Design and 2017 16th International Conference on Embedded Systems (VLSID), Hyderabad, 2017, pp. 207-212.

RESEARCH EXPERIENCE

- Thesis – Energy Estimation of High Performance Computing Applications** Jan 2016 – Jun 2016
Guide: Dr. Santonu Sarkar, Dept. of CS & IS, BITS Pilani Goa Campus
- Research thesis on estimation of energy consumption of parallel CUDA (Compute Unified Device Architecture) programs run on NVIDIA GPUs, by predicting execution time and power level.
 - Constructed a static analysis model for compiled Parallel Thread Execution (PTX) code and modelled thread execution to predict execution time. Constructed a power model by benchmarking.
- Real-Time Operating Systems – Memory Design** Jan 2015 – Dec 2015
Guide: Dr. Biju Raveendran, Dept. of CS & IS, BITS Pilani Goa Campus
- Research project proposing a deterministic TLB and process-aware partitioned cache design to eliminate inter-task interference, lower miss rates, and reduce energy usage.
 - Implemented MemSim, a single-clock-cycle memory subsystem simulator for experimental validation.
- Real-Time Operating Systems – Scheduler Design** Jan 2015 – Dec 2015
Guide: Dr. Biju Raveendran, Dept. of CS & IS, BITS Pilani Goa Campus
- Implemented an improved scheduling algorithm based on the Earliest-Deadline-First algorithm and modified with Stack Resource Policy and dynamic resource locking.
 - Enabled slack time extension for concurrent real-time tasks, minimizing the number of context switches for real-time tasks and leading to energy savings.

WORK EXPERIENCE

- Software Engineer I – Intuit, Bangalore, India** Aug 2016 – Present
- Cross-platform library and application developer for the TurboTax Desktop product on Windows and MacOS.
 - Implemented a standalone C++ library for use across Intuit teams and products.
- Summer Intern – Intuit, Bangalore, India** May 2015 – Jul 2015
- Integrated location-based features into the TurboTax Universal Android application and built automation tools.

PROJECTS

Raspberry Pi Surveillance System with Android Interface	Oct 2015 – Nov 2015
Linux Kernel Mouse Device Driver Implementation	Mar 2015 – Apr 2015
Simulation of DiskSim Scheduling Algorithms	Mar 2015 – Apr 2015
Phased Cache Memory Design and Simulation	Oct 2014 – Nov 2014
Garbage Collector Simulation for Memory Management	Aug 2014 – Dec 2014
Battleship Network Game	Oct 2015 – Nov 2015

ASSISTANTSHIPS

Teaching Assistant – Computer Architecture	Aug 2015 – Dec 2015
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Instructor: Dr. Biju Raveendran, Dept. of CS & IS, BITS Pilani Goa Campus

- Conducted laboratory sessions and evaluated course projects.

Professional Assistant – Computer Programming	Jan 2015 – May 2015
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Instructor: Mr. Mahadev Gawas, Dept. of CS & IS, BITS Pilani Goa Campus

- Conducted and evaluated laboratory sessions.

SKILLS

- **Programming and Tools:** C, C++, bash, Java, Python, Git, Latex
- **Environments:** Linux/UNIX, Windows, MacOS

HONORS AND ACHIEVEMENTS

Winner – Intuit HackUtsav 2017, Intuit, India	Jul 2017
Course Topper – Data Storage Technologies and Networks	May 2015
All-India Rank 17 – National Cyber Olympiad, India	Jun 2011

EXTRA CURRICULAR

Department of Creative Media, Mime Club, Department of Photography – BITS Pilani Goa Campus

Vice Prefect – National Public School