

Jashwant Raj Gunasekaran

EDUCATION	<p>PhD Student in <i>Computer Science and Engineering</i> Advisor: Dr Mahmut Kandemir CGPA 3.7/4, Pennsylvania State University, University Park, Concentration in Distributed Computing Systems</p> <p>Bachelor of Engineering in <i>Computer Science and Engineering</i> CGPA 8.24/10, Anna University, Chennai, India</p>	<p>Aug '14 - Present</p> <p>Aug '09 - May '13</p>
CURRENT RESEARCH	Currently working on resource management in public cloud to optimize for customer benefits across different service levels (PaaS, IaaS and SaaS). I also work on co-design of hardware heterogeneity and application heterogeneity at data-center scale.	
PUBLICATIONS AND PROJECTS	<p>Spock : Exploiting Serverless Functions for SLO and Cost Aware Resource Procurement. (CLOUD'19).</p> <p>Kube-Knots : Energy harvesting by dynamic container orchestration in GPU based Datacenters. (CLUSTER'19).</p> <p>Constraint aware scheduling for Cloud Systems: Developed a trace driven scheduler for constraint aware scheduling in heterogeneous cloud architectures (ICDCS'17).</p> <p>Parallel file system: Developed a parallel distributed file system (like NFS) which handles all file handling and multiple user file access.</p> <p>Multilevel thread scheduler: Designed a multilevel thread FCFS, SJB and MLFQ scheduler for realtime Operating System.</p>	
EXPERIENCE	<p>Intern- VMware Office of CTO, Boston MA</p> <ul style="list-style-type: none">Design a proof-of-concept integration between HPC job scheduling mechanisms and VMware virtualization software to help create a dynamic virtual machine provisioning model for virtualized HPC. <p>Intern- Qualcomm Inc</p> <ul style="list-style-type: none">Part of wifi firmware team. Worked on adding a new software power management feature into existing MAC firmware module.Part of the Android power optimization, I developed a tool to enable log collection and process the logs to obtain critical power utilization metrics. <p>Software Engineer- Qualcomm Inc, Chennai India</p> <ul style="list-style-type: none">Developed coded tests to validate the various Qualcomm proprietary features and also automated several wifi functionality tests. Technologies Used: SWAT automation, Networking protocols, Perl. Proposed a patent application named Processor Capacity Sharing	<p>Jun '19 - Aug '19</p> <p>Jun '16 - Aug '16</p> <p>Jun '15 - Aug '15</p> <p>Jun '13 - Jul '14</p>
INTERESTED DOMAINS	<p>Cloud computing: Public Cloud, Serverless Computing, Docker Containers, Kubernetes, Distributed resource management Operating Systems: Linux Kernel Development, Device Drivers and Firmware HPC: Workload characterization, Workload profiling, HPC benchmarks, Server performance.</p>	
RELEVANT COURSE WORK	Operating Systems Design, Public Cloud Computing, Parallel Computer Architecture, Data Structures and Algorithms, Object Oriented Programming using Java and C, Multiprocessor Architecture, Computer Networks, Statistical Analysis and Data Mining	
TECHNICAL SKILLS	<p>Cloud services: Docker containers, Mesos, Kubernetes, AWS lambda, Azure ML, Programming : C, C++, Java, Python, Bash Shell, OpenMP Distributed frameworks: Spark, Hadoop, Caffe DataBase Technologies : MYSQL, Oracle Web Technologies: HTML, CSS, JavaScript, XML</p>	