

Ashutosh Pattnaik

CONTACT INFORMATION (Office)	111N IST Building Penn State University University Park, PA, 16802	Cell: (814) 777-7319 Email: ashutosh@cse.psu.edu Homepage: http://ashutoshpattnaik.github.io
RESEARCH INTERESTS	GPU Architectures, CPU-GPU Heterogeneous Architectures, New Memory Technologies	
EDUCATION	The Pennsylvania State University , University Park, PA, USA <i>Ph.D. Candidate</i> in Computer Science and Engineering, <i>Advisors</i> : Dr. Chita Das & Dr. Mahmut Kandemir Current GPA : 3.75/4.0	Fall 2013 - Present
	National Institute of Technology , Rourkela, India Bachelor of Technology (<i>Hons.</i>) in Electronics and Instrumentation Engineering GPA : 9.24/10	Fall 2009 - Spring 2013
WORK EXPERIENCE	AMD Research , Austin, TX	Co-Op Engineer, Manager: John Keaty Summer 2015
	Penn State , University Park, PA	Graduate Research Assistant Summer 2014-Present
CURRENT RESEARCH	Understanding the research issues and opportunities involved in near-data computing in GPUs and tackling the issues of co-scheduling data and compute in order to minimize the data movement costs in these GPU systems.	
PUBLICATION	Adwait Jog, Onur Kayiran, Tuba Kesten, Ashutosh Pattnaik , Evgeny Bolotin, Nilardish Chatterjee, Steve Keckler, Mahmut Kandemir, Chita Das, <i>Anatomy of GPU Memory System for Multi-Application Execution</i> , In Proceedings of the 1st International Symposium on Memory Systems (MEMSYS), Washington, D.C., October 2015	
	Ashutosh Pattnaik , Sharad Agarwal, Subhasis Chand, <i>A New and Efficient Method for Removal of High Density Salt and Pepper Noise Through Cascade Decision based Filtering Algorithm</i> , In Proceedings of the 2 nd International Conference on Communication, Computing & Security (ICCCS), India, 2012	
TALKS AND PRESENTATIONS	A New and Efficient Method for Removal of High Density Salt and Pepper Noise Through Cascade Decision based Filtering Algorithm - ICCCS 2012, India, October 2012	
TEACHING EXPERIENCE	Teaching Assistant , CMPEN 431, Introduction to Computer Architecture Teaching Assistant , CMPEN 270, Digital Design: Theory and Practice	Spring 2014 Fall 2013
SKILLS	C/C++, Perl/Bash Scripting, GPGPU-Sim, FabScalar, MATLAB, CACTI, GDB	

COURSES @ PENN STATE	Topics in Computer Architecture	Applied Statistics
	Computer Networks	Numerical Computations
	Operating System Design	Programming Language Concepts
	Approximate Computing	Algorithm Design & Analysis
	Compiler Construction	Programming of Many-Core Architectures
COURSE PROJECTS	Implementation of a Parallel File System (PFS)	
	<ul style="list-style-type: none"> • Implementation of Client-side PFS interface calls and file cache. • Centralized Metadata Manager and multiple File Servers with file striping capability. • Support for concurrent readers and writers (writers work on different file blocks). 	
	Evaluating the Energy Cost of Data Movement in GPGPU Applications	
	<ul style="list-style-type: none"> • Created micro-benchmarks for evaluating the energy requirements of data movement among the different levels of memory hierarchy in NVIDIA K20m GPU. 	
	Implementation and Scalability Study of HPCG on Many-Core Architectures	
	<ul style="list-style-type: none"> • Ported and optimized the HPCG v2.4 code for implementation on Intel Xeon Phi coprocessors. 	
	AMPEG: Flexible Approximate MPEG decoding for handhelds	
	<ul style="list-style-type: none"> • Implemented tuneable parameters for approximation in MPEG decoding for power-constraint handheld devices. 	
UNDERGRADUATE RESEARCH	Undergraduate Thesis, NIT Rourkela, India	Fall 2012 – Spring 2013
	<i>Robotic Arm Control Through Human Arm Movement using Accelerometers</i>	
	Built a robotic arm to be controlled by using a wearable device	
	Summer Research Intern, IIT Kharagpur, India	Summer 2012
	<i>Floating-Point and Fixed-Point Implementation of Divide & Conquer SVD Algorithm for Symmetric Tridiagonal Matrices</i>	
	Implemented fast SVD Algorithm to be used in facial recognition algorithms	
	Research Intern, DRDO, India	Winter 2011
	<i>Radar Wave Propagation Modeling</i>	
	Investigated and modeled the effects of different environmental conditions on Radar waves propagation through them	
PROFESSIONAL SERVICE AND MEMBERSHIPS	<ul style="list-style-type: none"> • Student Member of ACM, IEEE, ACM SIGARCH • On-Behalf Reviewer (Conferences): ISCA, MICRO, HPCA, IPDPS, ICCAD, PPOPP 	
REFERENCES	References are available on request.	