

Gaurav Mitra

CONTACT INFORMATION

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TERTIARY EDUCATION

Australian National University, Canberra, ACT, Australia

Doctor of Philosophy - High Performance Computing

Feb 2011 – Present

- Panel: Prof. Alistair Rendell and Dr. Eric McCreath (ANU)
- Thesis Statement: The core utilization and energy efficiency of heterogeneous low-power System-on-chip processors can be dramatically enhanced using a unified low-level runtime system to support uniform memory access and seamless scheduling and migration of tasks across all execution units.

Bachelor of Software Engineering(Hons.)/Bachelor of Science

Feb 2006 – Dec 2010

- Degree Average: **77% (Distinction)** over 42 courses
- Honours Grade: **Second Class, Division A**
- Majors: Software Engineering, Mathematics, Computational Modeling

PUBLICATIONS

- Kristopher Keipert, **Gaurav Mitra**, Vaibhav Sunriyal, Sarom S. Leang, Masha Sosonkina, Alistair P. Rendell, Mark S. Gordon. *Energy-efficient computational chemistry: Comparison of x86 and ARM systems*, JCTC 2015.
- Anish Varghese, Robert Edwards, **Gaurav Mitra** and Alistair P. Rendell. *Programming the Adapteva Epiphany 64-core Network-on-chip Co-processor*, IJHPCA 2015
- **Gaurav Mitra**, Eric Stotzer, Ajay Jayaraj, Alistair P. Rendell. *Implementation and Optimization of the OpenMP Accelerator Model for the TI Keystone II Architecture*, IWOMP 2014.
- Anish Varghese, Robert Edwards, **Gaurav Mitra** and Alistair P. Rendell. *Programming the Adapteva Epiphany 64-core Network-on-chip Co-processor*, AsHES Workshop, IPDPS 2014
- Eric Stotzer, Ajay Jayaraj, Murtaza Ali, Arnon Friedmann, **Gaurav Mitra**, Alistair P. Rendell, Ian Lintault. *OpenMP on Low-Power TI Keystone II ARM/DSP System-on-chip*, IWOMP 2013.
- **Gaurav Mitra**, Beau Johnston, Alistair P. Rendell, Eric McCreath, Jun Zhou. *Use of SIMD Vector Operations to Accelerate Application Code Performance on Low-Powered ARM and Intel Platforms*, AsHES Workshop, IPDPS 2013.
- **Gaurav Mitra**, Xuan Zhou, Athman Bouguettaya and Xumin Liu. *A Request Oriented Model for Web Services*, AWC 2013.

EMPLOYMENT EXPERIENCE (ACADEMIA)

Australian National University, Canberra, ACT, Australia

Lecturer

- COMP 2100/6442 Software Construction **Feb 2016 – Present**
- COMP 2300/6300 Introduction to Computer Systems **Feb 2016 – Present**

Guest Lecturer

- COMP 3320/6464 High Performance Scientific Computing **Apr 2016**
- COMP 3300/6330 Operating Systems Implementation **Oct 2014**

Lecturer - Intensive Course

- Delivered 3-day Workshops on Shared Memory Parallel Programming for Engineers at Canon Information Systems Research Australia (CISRA), Sydney **Sep 2015, Feb 2016**

Tutor/Teaching Assistant

- COMP 4300/8300 Parallel Systems **Feb 2015 – June 2015**
- COMP 2100/6442 Software Construction **Feb 2015 – June 2015**
- COMP 3300/6330 Operating Systems Implementation **July 2014 – Nov 2014**
- ENGN 2225 Systems Engineering Design **Feb 2013 – June 2013**
- COMP 1100 Introduction to Programming and Algorithms **Feb 2011 – June 2011**
- COMP 2310/6310 Concurrent & Distributed Systems **July 2010 – Nov 2010**
- COMP 1100 Introduction to Programming and Algorithms **Feb 2010 – June 2010**
- COMP 2310/6310 Concurrent & Distributed Systems **July 2009 – Nov 2009**

EMPLOYMENT EXPERIENCE (INDUSTRY)	nCore HPC LLC., Petaluma, CA, USA		
	Systems Software Engineer	July 2013 – Oct 2013, Nov 2015 - Feb 2016	
	Software tools development, porting and optimization of scientific & numerical application codes in C/C++ for the nCore BrownDwarf ARM/DSP supercomputer.		
	Texas Instruments Inc., Houston, TX, USA		
	Software Engineer Intern	Nov 2013 – July 2014	
	Implemented the OpenMP 4.0 Accelerator Model runtime and meta-compiler and ported scientific and numerical application codes in C/C++ for the TI Keystone II ARM/DSP System-on-chip.		
	National ICT Australia, Canberra, ACT, Australia		
	Software Engineer	Aug 2009 – May 2010	
	C/C++ software development for ARM embedded systems in the InterfereX project at NICTA CRL.		
	CSIRO ICT Center, Canberra, ACT, Australia		
	Summer Intern	Nov 2008 – Feb 2009	
	Implemented a Semantic Web search engine in Java while working within the Web Services Division.		
AWARDS & SCHOLARSHIPS	AIIA National iAward		2009
	Australian Information Industry Association (AIIA), Callista Tertiary Student Project Category, for the Linux Robotics Framework. Participated in the Asia Pacific ICT Awards, Melbourne 2009.		
	Microsoft Imagine Cup Australia		2011
	Placed 3rd in Australia for developing <i>Social Alert</i> Disaster Response and Management System.		
	ANU International Undergraduate Scholarship		Feb 2006 – Dec 2010
	Covered full international undergraduate student tuition fees for entire duration of BSEng/BSc.		
	Australian Postgraduate Award		Aug 2011 – Sep 2015
	Australian Government PhD stipend scholarship of \$24,653 per annum.		
	ANU HDR Top-Up Scholarship		Feb 2012 – Feb 2015
PhD stipend top-up of \$7000 per annum.			
	CSIRO OCE Postgraduate Top Up Scholarship		Feb 2011 – Feb 2012
PhD stipend top-up of \$7000 per annum.			
	CSIRO ICT Centre Postgraduate Research Scholarship		Feb 2011 – Aug 2011
PhD stipend scholarship of \$20,000 per annum.			
SKILLS	• <i>Programming Languages</i>	C, C++, Java, Python, Bash	
	• <i>Parallel Programming</i>	pThreads, OpenMP, C++ 11, MPI	
	• <i>GPGPU Programming</i>	Nvidia CUDA, OpenCL	
	• <i>DSP Programming</i>	TI Code Composer Studio, SYS/BIOS & Linux MCSDK	
	• <i>SDK</i>	Android, Google Web Toolkit, Microsoft Silverlight	
	• <i>Version Control</i>	Git, SVN, Github, Gitlab, Bitbucket	
	• <i>Operating Systems</i>	Linux, Mac OS X, Windows	
	• <i>Project Management</i>	Atlassian Confluence, Jira, Bamboo, Crucible, Fisheye	
	• <i>Computer Aided Designing</i>	The Gimp, Adobe Photoshop, L ^A T _E X	
	SECONDARY EDUCATION	Don Bosco School, Park Circus, Kolkata, India	
Indian School Certificate (ISC)		- Scored 93.25% (Within top 0.3%)	2005
Indian Certificate of Secondary Education (ICSE)		- Scored 94.40% (Within top 0.2%)	2003
EMPLOYMENT EXPERIENCE (RESIDENTIAL LEADERSHIP)	Unilodge@ANU, Canberra, ACT, Australia		
	Senior Residential Scholar	Jan 2013 – Oct 2013	
	Burton & Garran Hall, Canberra, ACT, Australia		
	IT Assistant / Webmaster	Feb 2009 – Nov 2009	
	Summer Senior Residential Scholar	Nov 2008 – Feb 2009	
REFEREES	Available on request		