

Gaurav Mitra

CONTACT INFORMATION	1 Hacker Way, Menlo Park, California - 94025, USA	e-mail: gmitra@fb.com web: http://gmtra.github.io/
TERTIARY EDUCATION	Australian National University , Canberra, ACT, Australia <i>Doctor of Philosophy - High Performance Computing</i>	Feb 2011 – Nov 2017 <ul style="list-style-type: none">• Panel: Prof. Alistair Rendell and Dr. Eric McCreath (ANU)• Dissertation: Low-power System-on-Chip Processors for Energy Efficient High Performance Computing: The Texas Instruments Keystone II
	<i>Bachelor of Software Engineering(Hons.)/Bachelor of Science</i>	Feb 2006 – Dec 2010 <ul style="list-style-type: none">• Degree Average: 77% (Distinction) over 42 courses• Honours Grade: Second Class, Division A• Majors: Software Engineering, Mathematics, Computational Modeling
EMPLOYMENT EXPERIENCE (INDUSTRY)	Facebook Inc. , Menlo Park, CA, USA <i>Production Engineer</i>	Mar 2021 – Present Backend generalist working in the Feed and Stories Team (FAST PE) with a focus on improving performance and efficiency of services.
	Texas Instruments Inc. , Houston, TX, USA <i>Software Engineer</i>	Nov 2017 – Mar 2021 Embedded Multicore compiler and runtime tools development for TI ARM/DSP SoCs with a focus on OpenCL, OpenMP and LLVM.
	National Computational Infrastructure , Canberra, ACT, Australia <i>Staff Scientist</i>	Aug 2016 – Oct 2017 Research, implementation, and support of scientific application codes for the Raijin Supercomputer.
	nCore HPC LLC. , Petaluma, CA, USA <i>Systems Software Engineer</i>	Jul 2013 – Oct 2013, Nov 2015 – Jul 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 <i>Software Engineer Intern</i>	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 SoC.
	National ICT Australia , Canberra, ACT, Australia <i>Software Engineer</i>	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 <i>Summer Intern</i>	Nov 2008 – Feb 2009 Implemented a Semantic Web search engine for the Web Services Division.
EMPLOYMENT EXPERIENCE (ACADEMIA)	Australian National University , Canberra, ACT, Australia <i>Lecturer</i>	<ul style="list-style-type: none">• COMP 2100/6442 Software Construction Feb 2016 – Jun 2016• COMP 2300/6300 Introduction to Computer Systems Feb 2016 – Jun 2016
	<i>Guest Lecturer</i>	<ul style="list-style-type: none">• COMP 3320/6464 High Performance Scientific Computing Apr 2016• COMP 3300/6330 Operating Systems Implementation Oct 2014
	<i>Lecturer - Intensive Course</i>	<ul style="list-style-type: none">• Delivered Workshops on Shared Memory Parallel Programming for Engineers<ul style="list-style-type: none">• 3-Day Workshop: Canon Research (CISRA), Sydney Sep 2015, Feb 2016• 5-Day Workshop: Australian Signals Directorate, Canberra Jun 2016
	<i>Tutor/Teaching Assistant</i>	<ul style="list-style-type: none">• COMP 4300/8300 Parallel Systems 2015• COMP 2100/6442 Software Construction 2015• COMP 3300/6330 Operating Systems Implementation 2014• ENGN 2225 Systems Engineering Design 2013• COMP 1100 Introduction to Programming and Algorithms 2010, 2011• COMP 2310/6310 Concurrent & Distributed Systems 2009, 2010

SKILLS	<ul style="list-style-type: none"> • <i>Programming Languages</i> C, C++, Python, Java, Bash • <i>Compiler Framework</i> LLVM • <i>Parallel Programming</i> pThreads, OpenMP, OpenCL, CUDA, C++ 11, MPI • <i>DevOps & Virtualization</i> Docker, LXD/LXC, Vagrant, VMWare, VirtualBox, Parallels • <i>Version Control</i> Git, SVN, Mercurial • <i>Operating Systems</i> Linux, Mac OS X, Windows • <i>Project Management</i> Atlassian Confluence, Jira, Bamboo, Crucible, Fisheye 	
PUBLICATIONS (CITATIONS ▷ 276, H-INDEX ▷ 6)	<ul style="list-style-type: none"> • Vivek Kumar, Abhiprayah Tiwari, Gaurav Mitra <i>HetroOMP: OpenMP for Hybrid Load Balancing Across Heterogeneous Processors</i>, IWOMP 2019. • Gaurav Mitra, Jonathan Bohmann, Ian Lintault, Alistair P.Rendell. <i>Development and Application of a Hybrid Programming Environment on an ARM/DSP System for High Performance Computing</i>, IPDPS 2018 • Gaurav Mitra, Andrew Haigh, Anish Varghese, Luke Angove, Alistair P.Rendell. <i>Split Wisely: When work partitioning is energy-optimal on heterogeneous hardware</i>, HPC 2016 • Kristopher Keipert, Gaurav Mitra, Vaibhav Sunriyal, Sarom S. Leang, Masha Sosonkina, Alistair P. Rendell, Mark S. Gordon. <i>Energy-efficient computational chemistry: Comparison of x86 and ARM systems</i>, JCTC 2015. • Anish Varghese, Robert Edwards, Gaurav Mitra and Alistair P. Rendell. <i>Programming the Adapteva Epiphany 64-core Network-on-chip Co-processor</i>, IJHPCA 2015 • Gaurav Mitra, Eric Stotzer, Ajay Jayaraj, Alistair P. Rendell. <i>Implementation and Optimization of the OpenMP Accelerator Model for the TI Keystone II Architecture</i>, IWOMP 2014. • Anish Varghese, Robert Edwards, Gaurav Mitra and Alistair P. Rendell. <i>Programming the Adapteva Epiphany 64-core Network-on-chip Co-processor</i>, ASHES Workshop, IPDPS 2014 • Eric Stotzer, Ajay Jayaraj, Murtaza Ali, Arnon Friedmann, Gaurav Mitra, Alistair P. Rendell, Ian Lintault. <i>OpenMP on Low-Power TI Keystone II ARM/DSP System-on-chip</i>, IWOMP 2013. • Gaurav Mitra, Beau Johnston, Alistair P. Rendell, Eric McCreath, Jun Zhou. <i>Use of SIMD Vector Operations to Accelerate Application Code Performance on Low-Powered ARM and Intel Platforms</i>, ASHES Workshop, IPDPS 2013. • Gaurav Mitra, Xuan Zhou, Athman Bouguettaya and Xumin Liu. <i>A Request Oriented Model for Web Services</i>, AWC 2013. 	
ACADEMIC SERVICE (TECHNICAL REVIEWER)	<ul style="list-style-type: none"> International Conference on High Performance Computing, Data and Analytics (HiPC) 20' International Conference on Parallel Processing (ICPP) 20' International Workshop on Accelerators and Hybrid Exascale Systems (ASHES, IPDPS) 21', 20' International Workshop on OpenMP (IWOMP) 20' International Workshop on OpenCL (IWOCL) 21', 20' Journal of Parallel Computing 21', 20' 	
AWARDS & SCHOLARSHIPS	<ul style="list-style-type: none"> 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 BEng/BSc. Awarded based on merit to 5 students per year out of all international students across ANU. Australian Postgraduate Award Aug 2011 – Sep 2015 Australian Government PhD stipend scholarship of \$24,653 per annum. Awarded based on merit. ANU HDR Top-Up Scholarship Feb 2012 – Feb 2015 PhD stipend top-up of \$7000 per annum. Awarded based on merit. CSIRO OCE Postgraduate Top Up Scholarship Feb 2011 – Feb 2012 PhD stipend top-up of \$7000 per annum. Awarded based on merit. CSIRO ICT Centre Postgraduate Research Scholarship Feb 2011 – Aug 2011 PhD stipend scholarship of \$20,000 per annum. Awarded based on merit. 	
SECONDARY EDUCATION	<ul style="list-style-type: none"> Don Bosco School, Park Circus, Kolkata, India <i>Indian School Certificate (ISC)</i> - Scored 93.25% (Within top 0.3%) 2005 <i>Indian Certificate of Secondary Education (ICSE)</i> - Scored 94.40% (Within top 0.2%) 2003 	