

ABHINAV AGGARWAL

CURRICULUM VITAE

PERSONAL INFORMATION

EMAIL abhiag AT unm DOT edu
WEBSITE www.abhiag6891.com
CURRENT ADDRESS GATES 441, Cornell University, Ithaca NY

CURRENT AFFILIATION

CORNELL UNIVERSITY
Graduate Research Intern

Fall 2017 - Working on distributed consensus.
Present

UNIVERSITY OF NEW MEXICO
Research Assistant

Fall 2014 - Working on interactive communication and resource competitive analysis.
Present

EDUCATION

UNIVERSITY OF NEW MEXICO
Doctor of Philosophy

2014 - Department of Computer Science, School of Engineering
Present
SCHOOL :
ADVISOR : Prof. JARED SAIA
GPA : 4.15/4.0

INDIAN INSTITUTE OF TECHNOLOGY, ROORKEE
Master of Technology / Bachelor of Technology

2004 - Department of Computer Science and Engineering
2009
SCHOOL :
ADVISOR : Prof. PADAM KUMAR
THESIS : *Comparing Sequential Computer Programs using Truth Preserving Partial Functions*
GPA : 8.99/10

PAST INTERNSHIPS

VISA RESEARCH
Research Intern

Summer 2017 Working on distributed systems research, focusing on providing a remote attack prevention and PKI establishment.

GOOGLE INC.
Software Engineer (Intern)

Summer 2016 Provisioned an Isolation Manager and studied the feasibility of using Linux control groups for user-level isolation in search queries (Code in C++11).

MICROSOFT IDC
Software Development Engineer (Intern)

Summer 2013 Analyzed test frameworks and dependencies for porting the PDF-API test code to Windows 8.1 architecture. (Code in C++).

MICROSOFT IDC
Software Development Engineer (Intern)
Summer 2012
Optimized VHD (Virtual Hard Disk) comparison tool for dynamic VHDs for efficient virtual machine migration over Windows Hypervisor. (Code in C++ and C#)

UNIVERSITY OF SASKATCHEWAN
Undergraduate Intern
Summer 2011
Created a prototype on Arduino for audio level indication as part of the Opencast Matterhorn Project.

PUBLICATIONS

(Note : In theoretical computer science, it is standard to list author names in alphabetical order.)

REMOTE GATE: INCENTIVE-COMPATIBLE REMOTE CONFIGURATION OF SECURITY GATEWAYS · *arXiv:1709.04569* · Abhinav Aggarwal, Mahdi Zamani, Mihai Christodorescu · 2017

DISTRIBUTED COMPUTING WITH CHANNEL NOISE · *eprint.iacr.org:20170725:171227* · Abhinav Aggarwal, Varsha Dani, Thomas P. Hayes, Jared Saia · 2017

SENDING A MESSAGE WITH UNKNOWN NOISE · (Accepted to ICDCN 2018) *arXiv:1605.04486* · Abhinav Aggarwal, Varsha Dani, Thomas P. Hayes, Jared Saia · 2017

BEATING THE MULTIPLICATIVE WEIGHTS UPDATE ALGORITHM · *arXiv:1708.04668* · Abhinav Aggarwal, José Abel Castellanos Abel, Diksha Gupta · 2017

A SIMILARITY CRITERION FOR SEQUENTIAL PROGRAMS USING TRUTH-PRESERVING PARTIAL FUNCTIONS · *arXiv:1708.05640* · Abhinav Aggarwal, Padam Kumar · 2013

NOVEL AUTHENTICATION SYSTEM USING VISUAL CRYPTOGRAPHY · *In Information and Communication Technologies (WICT), World Congress (pp. 1181-1186). IEEE* · Jaya, Siddharth Malik, Abhinav Aggarwal, Anjali Sardana · 2011

PATENTS

REMOTE CONFIGURATION OF SECURITY GATEWAYS · (Provisional) Patent (US - 62/547,701), Visa Research · Abhinav Aggarwal, Mahdi Zamani, Mihai Christodorescu · 2017

TECHNICAL REPORTS

EVOLVING RANDOM SEQUENCES USING A GENETIC ALGORITHM · *Technical Report*, UNM 2015 · Abhinav Aggarwal

ON THE EQUIVALENCE OF PROBABILISTIC AUTOMATA · *Technical Report*, UNM 2015 · Abhinav Aggarwal

A REPORT ON PROBABILISTIC PROGRAMS AND THEIR VERIFICATION · *Technical Report*, UNM 2015 · Abhinav Aggarwal

VIRTUAL DIFFERENTIAL STORAGE BASED k -ROLLBACK CONCURRENCY CONTROL ALGORITHM IN DISTRIBUTED SHARED MEMORY SYSTEMS · *Technical Report*, IITR 2012 · Abhinav Aggarwal, Rupika Srivastava, Sumit Malik, Kirti Meena, Poonam

TALKS

- Jan 2018* DISTRIBUTED CONSENSUS AND BLOCKCHAINS: A BRIEF TUTORIAL · Indian Institute of Technology Roorkee · India
- Nov 2017* INCENTIVE-DRIVEN REMOTE CONFIGURATION OF SECURITY GATEWAYS · Security Discussion Group (secDG) · Cornell University
- Oct 2017* HOW TO TRUST WITHOUT ANY TRUST? · CITP · Princeton University and MIT-IBM J. Watson AI Lab
- Oct 2017* GLOBAL SDN: ALTRUISTIC ATTACK PREVENTION · MIT CSAIL and University of Cincinnati
- Aug 2017* GLOBAL SOFTWARE DEFINED NETWORKING: THE REMOTE GATE APPROACH · Intern Research Seminar · Visa Research
- Jun 2017* COMPETING FOR BITS : A RESOURCE COMPETITIVE FRAMEWORK FOR MULTI-PARTY INTERACTIVE COMMUNICATION · Intern Research Seminar · Visa Research
- Feb 2017* EVIL IRONMAN AND THE TALKATIVE MEN OF NYC · UNM STEM Research Showcase · University of New Mexico
- Dec 2016* SECURE MULTIPARTY INTERACTIVE COMMUNICATION WITH UNKNOWN NOISE RATE · Mid-South Theory Day · Louisiana State University
- Sept 2016* A SHORT INTRODUCTION TO ALGEBRAIC MANIPULATION DETECTION CODES · UNM CS Theory Seminar · University of New Mexico
- Apr 2016* SECURE ONE WAY INTERACTIVE COMMUNICATION · UNM CS Student Conference · University of New Mexico
- Apr 2015* EQUIVALENCE OF PROBABILISTIC AUTOMATA · UNM CS Theory Seminar · University of New Mexico

POSTERS

- INCENTIVE-DRIVEN REMOTE GATEWAY CONFIGURATION · Great Lakes Security Day, Rochester Institute of Technology · 2017

TEACHING ASSISTANCE

- Fall 2017 DISTRIBUTED CONSENSUS AND BLOCKCHAINS · Cornell CS 6432
- Spring 2014 MODELING AND SIMULATION · IITR CS 501
- Fall 2013 DISCRETE STRUCTURES · IITR CS 106

OTHER INFORMATION

- AWARDS** **COUNCIL CHAIR AWARD** for service to graduate students · *University of New Mexico* · 2017
- PHI-KAPPA-PHI HONOR SOCIETY AWARD** for distinguished graduate student · *University of New Mexico* · 2016
- INSTITUTE SILVER MEDAL** for the highest GPA · *Indian Institute of Technology* · 2014
- LEADERSHIP** **COUNCIL CHAIR** of the Graduate and Professional Student Association (GPSA) · *University of New Mexico* · April 2017 - June 2017
- ORGANIZER** of the New Mexico Student Conference for Computer Science (NMSC 2017) · *University of New Mexico* · April 2017
- PRESIDENT** of the Computer Science Graduate Student Association (CSGSA) · *University of New Mexico* · 2016-2017
- VICE-CHAIR** of the Legislative Steering Committee of GPSA · *University of New Mexico* · 2016-2017
- VICE-PRESIDENT** of the Computer Science Graduate Student Association · *University of New Mexico* · 2015-2016
- VICE-PRESIDENT** of the Indian Student Association (ISA) · *University of New Mexico* · 2015-2016
- NEW STUDENT LIASON** of the Computer Science Graduate Student Association · *University of New Mexico* · 2014-2015
- VOLUNTEERING** **INTERNATIONAL TAX VOLUNTEER** at the Global Education Office · *University of New Mexico* · March 2017 - April 2017
- VOTING MEMBER** of the Graduate and Professional Student Association · *University of New Mexico* · 2015-2017

LAST UPDATED : November 9, 2017