AFTAB HUSSAIN

PhD Candidate
3061 Donald Bren Hall, Irvine CA 92617
Department of Computer Science,
University of California, Irvine
aftabh@uci.edu, https//:aftabhussain.github.io

RESEARCH INTERESTS

Programming Languages, Static Program Analysis Scalability, Security.

EDUCATION

2015 - present	PhD Candidate in COMPUTER SCIENCE, **University of California, Irvine**, United States Focus: "Programming Languages and Systems" | Advisor: Prof. Anton BURTSEV GPA: 3.80/4
2013 - 2015	M.Sc. in SOFTWARE ENGINEERING, **University of California, Irvine**, United States GPA: 3.74/4
2010 - 2012	M.Sc.Engg. in COMPUTER SCIENCE AND ENGINEERING, **Bangladesh University of Engineering and Technology**, Dhaka, Bangladesh Thesis: "Software Restructuring using Hierarchical Clustering" Advisor: Prof. Md. Saidur RAHMAN GPA: 3.83/4
2005 - 2009	B.Tech. in COMPUTER SCIENCE AND ENGINEERING, **Institute of Engineering and Management**, Kolkata, India Thesis: "Steganography" | Advisor: Prof. Himadri Nath SAHA GPA: 8.01/10

EXPERIENCE

RESEARCH EXPERIENCE

MARCH 2015 to *present*	Graduate Researcher at DEPARTMENT OF COMPUTER SCIENCE, UNIVERSITY OF CALIFORNIA, IRVINE *Mars Systems Research Group, PLSys Group* Research Focus: Static program analysis, cyber security, graph processing Key projects: • IDL generation for light-weight capability domains in Linux kernel • Cloud vulnerabilities • Graspan - Big data system for big code analytics • Scaling path sensitive analysis and symbolic execution
SEPTEMBER 2013 to MARCH 2015	Graduate Researcher at DEPARTMENT OF INFORMATICS, UNIVERSITY OF CALIFORNIA, IRVINE *Big Data Mondego Lab* Research Focus: Big data analytics, mining software repositories Key projects: • StackOverflow code usability • GitHub follow and watch relationship analysis

DECEMBER 2012 TO AUGUST 2013	Research Associate at DEPARTMENT OF COMPUTER SCIENCE, BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY *Graph Drawing and Information Visualization Lab,* *Samsung Innovation Lab* Research Focus: Graph Clustering, Software Visualization
SEPTEMBER 2010 TO JUNE 2011	Research Assistant at DEPARTMENT OF COMPUTER SCIENCE, BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY *Graph Drawing and Information Visualization Lab* Research Focus: Planar Graph Drawing, Wireless Sensor Networks

TEACHING EXPERIENCE

	Teaching Assistant at BREN SCHOOL OF INFORMATION AND COMPUTER SCIENCES, UNIVERSITY OF CALIFORNIA, IRVINE
SPRING 2018	*ICS 53 - Principles of System Design*
WINTER 2018	*CS 142 - Compilers and Interpreters*
FALL 2017	*CS 141 - Concepts in Programming Languages*
WINTER 2017	*CS 142 - Compilers and Interpreters*
WINTER 2014	*ICS 31 - Introduction to Programming*
WINTER 2014	*INF 113 - Requirements Analysis and Engineering*
	Reader at BREN SCHOOL OF INFORMATION AND COMPUTER SCIENCES, UNIVERSITY OF CALIFORNIA, IRVINE
FALL 2013	*INF 43 - Introduction to Software Engineering*

INDUSTRY EXPERIENCE

MARCH 2010 TO APRIL 2010	Software Engineering Intern at NEXTTEL COMMUNICATION, DHAKA, BANGLADESH
JULY 2008	Software Engineering Trainee at CMC KOLKATA, (A TATA ENTERPRISE), KOLKATA, INDIA

PUBLICATIONS

CONFERENCES

C.4. K. Wang, A. Hussain, Z. Zuo, G. Xu, and A. A. Sani. Graspan: A single-machine disk-based graph system for interprocedural static analyses of large-scale systems code. In *22nd ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS '17)*, Xi'an, China, 2017 (paper)

C.3. D. Yang, A. Hussain, and C. V. Lopes. From query to usable code: An analysis of stack overflow code snippets. In *13th International Conference on Mining Software Repositories (MSR '16, Co-located with ICSE '16)*, Austin, Texas, US, 2016 (paper)

C.2. I. Hossain, S. Sultana, A. Hussain, N. N. Moon, and M. S. Rahman. L-shaped drawings of series-parallel graphs. In *International Mathematics Conference*, Dhaka, Bangladesh, 2013 (paper)

C.1. A. Hussain and M. S. Rahman. A new hierarchical clustering technique for restructuring software at the function level. In *6th India Software Engineering Conference (ISEC '13)*, New Delhi, India, 2013 (paper)

WORKSHOPS

W.2   A. Hussain. Graspan: A single-machine disk-based graph system for interprocedural static analyses of large-scale systems code. In *17th Southern California Workshop on Programming Languages and Systems (SoCal PLS '16)*, Irvine, California, US, 2016

W.1   A. Hussain and M. S. Rahman. A new clustering technique using (k,w)-core decomposition for restructuring software functions. In *Workshop on Graph Drawing and Graph Algorithms (GDGA '13)*, Dhaka, Bangladesh, 2013

POSTER PRESENTATIONS

P.2   A. Hussain. Graspan: A single-machine disk-based graph system for interprocedural static analyses of large-scale systems code. In *Student Research Competition, 37th ACM SIGPLAN conference on Programming Language Design and Implementation (PLDI '16)*, Santa Barbara, California, US, 2016 (poster)

P.1   A. Hussain. Graspan: A single-machine disk-based graph system for interprocedural static analyses of large-scale systems code. In *Computer Science Research Showcase, University of California, Irvine*, Irvine, California, US, 2016

TECHNICAL REPORTS

T.5   H. Xu, Z. Zuo, K. Wang, A. Hussain, and K. Nguyen. Systemized program analyses: A big data perspective on scaling large-scale code analyses. Technical report, Department of Computer Science, University of California, Irvine, 2017 (report)

T.4   A. Hussain and I. Scherson. A study on memory consistency approaches in distributed shared memory systems. Technical report, Department of Computer Science, University of California, Irvine, 2016

T.3   A. Hussain and G. Xu. Graphdtc: A graph processing system for scalable and precise program analysis. Technical report, Department of Computer Science, University of California, Irvine, 2015 (report)

T.2   A. Hussain, O. Asadi, and D. Richardson. A holistic look at requirements engineering practices in the gaming industry. Technical report, Department of Informatics, University of California, Irvine, 2015 (report)

T.1   D. Yang, A. Hussain, and C. V. Lopes. Effect of follow and watch relationships in pull requests (in github). Technical report, Department of Informatics, University of California, Irvine, 2014 (report)

UNDER PREPARATION

U.2   A. Hussain and A. Burtsev. Common vulnerabilities and exposures in the cloud (under preparation). Technical report, Department of Computer Science, University of California, Irvine, 2018

U.1   A. Hussain, V. Narayanan, and A. Burtsev. Dsa-idl-generator : Execution flow and indirect call handling (under preparation). Technical report, Department of Computer Science, University of California, Irvine, 2018

SERVICE

ISSTA 2018 Amsterdam, Netherlands	Artifact Evaluation Committee Member INTERNATIONAL SYMPOSIUM ON SOFTWARE TESTING AND ANALYSIS
ISSTA 2017 Santa Barbara, California, US	Artifact Evaluation Committee Member INTERNATIONAL SYMPOSIUM ON SOFTWARE TESTING AND ANALYSIS
WADM 2013 Dhaka, Bangladesh	Reviewer WORKSHOP ON ADVANCES IN DATA MANAGEMENT
BWTCSE 2013 Dhaka, Bangladesh	Organizing Committee Member BRAIN STORMING WORKSHOP ON THEORETICAL COMPUTER SCIENCE AND ENGINEERING
GDGA 2013 Dhaka, Bangladesh	Organizing Committee Member WORKSHOP ON GRAPH DRAWING AND GRAPH ALGORITHMS

| | WALCOM 2012 | Organizing Committee Member and Reviewer |
| | Dhaka, Bangladesh | Workshop on Algorithms and Computation |

Students Mentored

June 2016 - December 2016	**John Vincent Thorpe**
	Undergraduate Student
	Department of Computer Science, University of California, Irvine
June 2016 - December 2016	**Sungsoo Son**
	Undergraduate I-Surf Fellow from Kookmin University, Seoul
	Department of Computer Science, University of California, Irvine
June 2016 - August 2016	**Hansem Jeon**
	Undergraduate I-Surf Fellow from Kookmin University, Seoul
	Department of Computer Science, University of California, Irvine
September 2015 - December 2015	**Soyeong Park**
	Undergraduate I-Surf Fellow from Kookmin University, Seoul
	Department of Computer Science, University of California, Irvine
September 2015 - December 2015	**Md. Khaled Hussain**
	Graduate Student
	Department of Computer Science,
	Bangladesh University of Engineering and Technology