AFTAB HUSSAIN
Researcher and PhD Candidate

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3061 DONALD BREN HALL
COMPUTER SCIENCE DEPARTMENT
UNIVERSITY OF CALIFORNIA, IRVINE

EDUCATION

University of California Irvine (UCI)
PhD Candidate in Computer Science 2015 - present
MS in Software Engineering 2013 - 2015

Bangladesh University of Engineering and Tech (BUET)
MS in Computer Science and Engineering 2010 - 2012

Institute of Engineering and Management Kolkata India
BTech in Computer Science and Engineering 2005 - 2009

INTERESTS

Graph Processing Systems, Big Data Systems, Operating Systems, Scaling Program Analysis, Security

SKILLS

Good - Java, Latex
Competent - C, C++, Python, SQL, C#
Familiar - VB.Net, R, Lisp

HONORS

Professional Activities Grant ACM '17
Travel Award Research Competition ACM '16
Chair's Award Informatics Dept. UCI '13
Associated System Engineer Offer IBM-India '09

EXPERIENCE

UCI - Graduate Researcher
SEP 2013 - present

IDL GENERATION FOR LINUX KERNEL SECURITY
SEP 2017 - present
Currently analyzing Linux kernel to automatically generate Interface Definition Lang. code that helps isolate kernel modules, thereby enhancing kernel security.

BIG CODE MINING PROJECT
SEP 2013 - FEB 2015
Compiled 300,000+ Stack Overflow Java snippets. Used heuristics to improve their parse rate from **6.22% to 19.24%.**

GRASPAN - BIG CODE ANALYSIS PROJECT
JUL 2015 - JUL 2017
Built a graph processing system in Java for analyzing **millions** of lines of code. Graspan found **85** bugs in Linux kernel in a few hours.

SEARCH OPTIMIZATION
JAN 2014 - MAR 2014
Developed a search engine in Java. Improved basic search engine's results by **92.8%** by relevance.

UCI - Teaching Assistant
JAN 2014 - present

PROGRAMMING LANGUAGES
FALL '17
Helping students understand PL concepts and implement them in **C, C++, Java** .

INTRO TO PROGRAMMING
WINTER '14
Guided students on **Python** programming problems in lab sessions.

COMPILERS AND INTERPRETERS
WINTER '17, '18
Guided 70 students in implementing all phases of Crux **compiler** in **Java** .

REQ ANALYSIS AND ENGG
WINTER '14
Co-designed course framework, managed RE project teams .

BUET - Research Associate and Research Assistant
DEC 2012 - AUG 2013 & SEP 2010 - JUN 2011

VISUAL CODE REFACTORING
Developed a software clustering algorithm in Java that improves refactoring visualization by at least **30%** over 3 widely popular clustering algorithms , is **60% faster**, and **yields the same code quality improvements**.

NextTel Communication, Dhaka - Software Engineering Intern MAR 2010 - APR 2010

MOBILE UI DESIGN
Developed the user interface of a drug delivery application for a pharmaceutical company in Java using J2ME libraries.

PUBLICATIONS

Graspan - International Conference on Architectural Support for Programming Languages and Operating Systems
2017 Xi'an, China
From query to usable code - International Conference on Mining Software Repositories
2016 Austin, Texas
A new hierarchical clustering technique for restructuring software - India Software Engineering Conference
2013 New Delhi, India