Dr. Bhanukiran Gurijala

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Education

Ph.D. (Doctor of Philosophy) in **Computer Science**,   **Aug 2016**
The University of Texas at El Paso (UTEP), TX, USA
Overall GPA: 3.69/4.0

M.S. (Master of Science) in **Software Engineering**,   **Dec 2008**
The University of Houston Clear-Lake (UHCL), TX, USA
Overall GPA: 3.95/4.0

B.E. (Bachelor of Engineering) in **Computer Science & Engineering,**   **Jun 2005**
Rashtreeya Vidyalaya College of Engineering (RVCE),
Bangalore, Karnataka, India
First class. The university does not follow the GPA system

Dissertation

"A Unified Cyber-Enhanced Approach for Detecting Cross-Site Scripting
attacks on Web Applications"
Advisors: Dr. Ann Q. Gates and Dr. Salamah I. Salamah
Committee: Dr. Luc Longpré, Dr. Natalia Villanueva-Rosales, and Dr. Miguel Velez-Reyes

Research and Teaching Interests

➢ My research interest is in software engineering especially in quality assurance, formalisms and applying principles of software engineering to cyber-security.
➢ Experience teaching face-to-face and online undergraduate and graduate level computer science and software engineering courses such as Algorithms, Computer Organization, Computer Architecture, Operating Systems, Advanced Operating Systems, Advanced Computer and Network Security, Systems Programming, Data Structures, Object-Oriented Programming using Java, Python Programming, Business Intelligence, Testing, Verification, and Validation, and Computer Programming for Scientists and Engineers.
➢ Teaching experience assisting as TA and lecturing few sessions of the following Computer Science courses: Software Architecture (graduate level course), Software Engineering Requirements (senior level course), Software Engineering Design and Implementation (senior level course), Advanced Object-Oriented Programming, Computer Architecture II, Automata, Computability and Formal Languages, Data Structures, and Elementary Data Structures courses
➢ Interested in teaching Computer Science and Software Engineering courses for undergraduates and graduates.
➢ Interested in teaching special topic courses geared towards specialization topics in Software Engineering and Cyber-Security.

Honors and Awards

Outstanding Graduate Student, The University of Texas at El Paso   **2017**
> ➢ Awarded "Outstanding Graduate Student in Computer Science – Ph.D." in Honor Convocation held in April 2017 by The University of Texas at El Paso

Excellent Summer Intern, Heavy Construction Systems Specialists, Inc. (HCSS)   **2012**
> ➢ Awarded for performance as Software Testing Intern during Summer 2012 along with a cash award worth $1000

Dollars for Scholars Scholarship, University of Houston Clear-Lake (UHCL)   **2007 – 2008**
> ➢ Received a total of $2000 as scholarship for a period of 2 years starting from Spring 2007 while pursuing M.S. degree for exceptional merit

Excellence in Education, Akhil Bharatiya Vidyarthi Parishad (ABVP), India   **2001**
> ➢ Awarded for exceptional merit and standing 2nd in class 12 along with a cash award.

Skills

- **Programming Languages:** Java, JSPs, SQL, ASP.NET, C#, Python, C, C++, 8086 Assembly Language, and ARM Assembly Language.
- **Logic Programming Languages:** Prolog.
- **Statistical Programming:** Basic SAS 9.2 and R.
- **Content Management Framework:** Drupal 7.
- **Database Experience:** MS SQL Server 2014, IBM DB2 8.1, Oracle 9i, MS Access.
- **Web Technologies:** JDBC, Servlets, EJBs, Struts Framework, HTML.
- **IDEs:** Eclipse 3.1, Jdeveloper, Visual Studio 2010, µVision.
- **Security Tools:** ZAP 2.6.0, Burp suite v1.7.24.
- **Tools:** Ranorex 7.1, Rational Rose Enterprise Edition, Crystal Reports XI, SQL Server Reporting Services 2005 (SSRS), Microsoft FrontPage, Microsoft Visio 2013, Microsoft Visual Source Safe (VSS) 6.0, Tortoise SVN subversion, Junit, OnTime, Jira.
- **Design:** Unified Modeling Language (UML) diagrams (use case, class, sequence, component and deployment diagrams).
- **Servers:** Weblogic 8.1, Tomcat 5.X, JBoss 4.2.1.
- **Software Metrics:** COCOMO, COCOMO II, CMMI Levels.
- Good written and oral communication skills.

Certifications and Licensures

Effective Teaching Practices (work in progress since Oct 2019)
> ➢ Completed five modules out of twenty-five modules to earn certificate

Scrum Master Certified (SMC) (work in progress since Dec 2019)
> ➢ Completed half of the material required to take the certification exam

Teaching Experience

Assistant Professor,   **Aug 2019 – Present**
Computer Science and Information Systems Department,
West Virginia University Institute of Technology (WVU Tech)

➢ Experience offering computer science undergraduate level courses face-to-face. Taught courses such as Operating Systems, Data Structures, and Java Programming,
➢ Scholarly activities
➢ Professional, department and university service

Assistant Professor,   **Aug 2017 – Aug 2019**
Computer Science, NAU (North American University)

➢ Taught computer science undergraduate and graduate level courses such as Computer Organization, Computer Architecture, Operating Systems, Advanced Operating Systems, Advanced Computer and Network Security, Data Structures, Algorithms, Advanced Algorithms, Systems Programming, Java Programming, Business Intelligence, and Python Programming
➢ Experience offering courses face-to-face and online
➢ Advising undergraduate and graduate Computer Science students

Lecturer,   **Aug 2014 – Dec 2014**
Computer Science, UTEP   **Jun 2010 – Aug 2010**

➢ Co-taught Computer Programming for Scientists and Engineers in Fall 2014 as co-instructor teaching few classes
➢ Co-taught Software Testing, Verification, and Validation course – graduate level core course in Software Engineering program in Summer 2010 as principal instructor
➢ Teaching class, grading exams, and grading technical papers

Lead Graduate Teaching Assistant, Computer Science, UTEP   **Jan 2010 – May 2014**

➢ Served and assisted as TA for: Software Architecture (graduate level course), Software Engineering Requirements (senior level course), Software Engineering Design and Implementation (senior level course), Advanced Object-Oriented Programming, Computer Architecture II, Automata, Computability and Formal Languages, Data Structures, and Elementary Data Structures courses.
➢ Supervised all TAs as lead TA from Fall 2010. Supervised around 20 TAs each semester.
➢ Conducted evaluations of all TAs from both faculty and students.
➢ Proposed and implemented new ways of accountability for both TAs and students that resulted in promoted better learning experience and optimal utilization of TAs.
➢ Maintaining the TA webpage on the department website and maintaining the course on Website or Course Management System (Blackboard).
➢ Teaching classes, grading the assignments, projects, and exams

Graduate Teaching Assistant, Software Engineering, UHCL   **Sep 2007 – Dec 2007**

➢ Maintaining the course on Course Management System.
➢ Teaching classes, grading the assignments and projects
➢ Clarifying the doubts of students

Professional Experience

Quality Assurance Analyst, HCSS, Houston, TX   **Aug 2016 – Aug 2017**

➢ Actively involved and co-managed the cyber-security initiative
➢ Facilitate sprint planning, daily scrums, retrospectives, stakeholder meetings, and software demonstrations
➢ Part of the team involved in automating and managing test suite for testing all products

➢ Actively involved in developing content and teaching quality assurance and quality control concepts to developers and quality personnel

Software Testing Intern,   **May 2013 – Aug 2013**
HCSS, Houston, TX   **Jun 2012 – Aug 2012**

➢ Actively involved in the efforts for automating regression testing for one of the major products (HeavyJob)
➢ Guided and led a team of four interns in generating automated scripts for regression testing of one of the major products (Heavyjob)
➢ Coming up with test case specifications, designing, and writing test cases
➢ Part of the design meetings for adding new features to the Heavyjob product
➢ Helped improve organization of software artifacts for easier access and maintainability

Data-warehousing Intern, Vigna Inc., Lawrenceville, GA   **Apr 2009 – Dec 2009**
➢ Created reports using SSRS and Crystal Reports XI for financial firm

Programmer Analyst, UR International Inc., Houston, TX   **May 2008 – Feb 2009**
➢ Created reports using SSRS and Crystal Reports XI for TDCJ
➢ Coding in Java

Student Tech II,   **Jan 2007 – Aug 2007**
University Computing and Telecommunications, UHCL
➢ Requirements gathering and creating SRS (Software Requirements Specification) document, and user manual documentation
➢ Coding in UIX and performed Unit testing

Senior Software Engineer, iGate Global Solutions Pvt. Ltd.,   India   **Sep 2005 – Dec 2006**
➢ Coding in J2EE and Struts
➢ Involved in client calls and helped in updating SRS and Design documents.
➢ Conducted Knowledge Transfer Sessions to the team members
➢ Involved in writing test cases and integration testing of the application

Intern, USi Internetworking Pvt. Ltd., India   **Jan 2005 – Jun 2005**
➢ Part of team involved in requirements gathering and creating SRS
➢ Actively involved in coding and testing (unit and integration level) the application

Research Experience

Research Associate, Cyber-shARE, UTEP   **Jun 2014 – May 2016**
➢ Conducted research and developed a metadata management system. Worked on MetaShare project in Cyber-shARE, which is a Web portal for researchers to: Create data management plans (DMP) for their research projects; Manage metadata about their datasets before and after data collection and processing; and Manage datasets.
Other research experiences include:
➢ Developed an approach for detecting and preventing Cross-Site Scripting (XSS) attacks on Web applications as part of my dissertation research. Currently working on protecting the intellectual property (applying for **patent**) that resulted from my dissertation work.
➢ I have helped one of my advisors in writing a grant proposal for NSF.
➢ Conducted preliminary research work on using model-based testing (MBT) for testing aspect-oriented programs (AOP).

➢ Conducted an extensive literature study on MBT by surveying over 100 papers and wrote extended abstracts for 45 of those.

Service

Member of the Faculty Search Committee, Computer Science,　　　　**Nov 2019 – Present**
West Virginia University Institute of Technology, Beckley, WV, USA
Judge, TAA Textbook Awards Program**,**　　　　　　　　　　　**Nov 2019 – Feb 2020**
Textbook and Academic Authors Association (TAA)
　　➢ Reviewed and Judged two text books in Computer Science field: Image Data Mining, and Kolmogorov Complexity and its Applications.
Special Session Organizer and Chair,　　　　　　　　　　　　**Sep 2018 – Dec 2018**
The 5th International Conference on Communication, Management and Information Technology
Advisor, ACM Chapter,　　　　　　　　　　　　　　　　　　**Sep 2018 – Jul 2019**
North American University, Stafford, TX, USA
Steering Committee Member, Distance Education,　　　　　　　**Feb 2018 – Jul 2019**
North American University, Stafford, TX, USA
Steering Committee Member, Student Success Office,　　　　　　**Feb 2018 – Jul 2019**
North American University, Stafford, TX, USA
Liaison, Institutional Assessment and Improvement Planning,　　**Sep 2017 – Jul 2019**
Computer Science Department, North American University, Stafford, TX, USA
Member of the advisory board, Computer Science,　　　　　　　**Sep 2017 – Jul 2019**
North American University, Stafford, TX, USA
　　➢ Advised on the curriculum for course work in the program
　　➢ Advised on the possible future path for the program along with suggesting improvements to the program
Advisor, ACM-W Chapter,　　　　　　　　　　　　　　　　**Sep 2017 – Jul 2019**
North American University, Stafford, TX, USA
Member of the Technical Program Committee, GSTF Journal on Computing (JoC),
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Journal Reviewer, Athens Institute for Education and Research (ATINER),
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Member of the advisory board, Office of International Programs (OIP),　**Aug 2012 – Jul 2013**
The University of Texas at El Paso, TX, USA
　　➢ Explored the status of international students within the context of El Paso and advised the committee on its improvement
　　➢ Advised on the improvement of information on the Website and proposed the existence of information in networking sites for enhanced reach to prospective and current students
　　➢ Advocated for the improvement of the housing situation for international students

Member of the advisory board, Masters in Software Engineering,　　**Jan 2010 – Dec 2011**
The University of Texas at El Paso, TX, USA
　　➢ Advised on the curriculum for course work in the program
　　➢ Advised on the possible future path for the program along with suggesting improvements to the program
Webmaster, Indian Student Association (ISA),　　　　　　　　　**Jan 2013 – Jun 2016**
The University of Texas at El Paso, TX, USA
　　➢ Maintaining the Website in accordance with the university rules and policies

Member, American Red Cross,   **Jan 2010 – Present**

Memberships

Member of Computer Society of Institute of Electrical and Electronics Engineers (IEEE), 2008-present
Member of Association for Computing Machinery (ACM), 2010-present
Member of American Society for Quality (ASQ), 2011-present
Member of Text and Academic Authors Association (TAA), 2013-present
Member of Honor Society, 2015-present
Member of Project Management Institute, 2017-present

Publications

Gurijala, Bhanukiran, "A unified cyber-enhanced approach for detecting cross-site scripting attacks on Web applications" (2016). *ETD Collection for University of Texas, El Paso*. AAI10152104.

Conference Publications

Osuna, F., Gurijala, B., Esparza, P., Akbar, M., and Gates, A., "A Feasibility Study of an Approach to Extend Research Footprints Using Disparate Sources," Proceedings of the First AAAI Workshop on Scholarly Big Data: AI Perspectives, Challenges, and Ideas, February 12-17, 2016, Phoenix, AZ.

Invited Presentations

A Novel Unified Cyber-Enhanced Approach for Detecting Cross-Site Scripting Attacks on Web Applications. Invited Technical Presentation, IEEE West Virginia Section, Beckley, West Virginia, USA, November 14, 2019.

References available on request