

BHANUKIRAN GURIJALA

PERSONAL INFORMATION

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PROFESSIONAL INFORMATION

Department of Computer Science and
Information System Development
West Virginia University Institute of
Technology
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EDUCATION

Ph.D. in Computer Science, The University of Texas at El Paso (UTEP), TX, USA	2016
M.S. in Software Engineering, The University of Houston Clear-Lake (UHCL), TX, USA	2008
B.E. (Bachelor of Engineering) in Computer Science and Engineering, Rashtreeya Vidyalaya College of Engineering (RVCE), Bangalore, India	2005

PROFESSIONAL EXPERIENCE

Assistant Professor (tenure-track), Computer Science (CS) and Information Systems (IS) Department, West Virginia University Institute of Technology (WVU Tech)	2019 –
Assistant Professor (non-tenure-track), Computer Science, North American University (NAU)	2017 – 2019
Quality Assurance Analyst, Heavy Construction Systems Specialists, Inc. (HCSS)	2016 – 2017
Programmer Analyst, UR International Inc.	2008 – 2009
Senior Software Engineer, iGate Global Solutions Pvt. Ltd.	2005 – 2006

HONORS AND AWARDS

2017 Outstanding Graduate Student in Computer Science, UTEP
2012 Excellent Summer Intern (including cash award \$1000), HCSS
2007 – 2008 Dollars for Scholars Scholarship (\$2000 for exceptional merit), UHCL
2001 Excellence in Education (for exceptional merit, standing 2nd in district for class 12
along with cash award), Akhil Bharatiya Vidyarthi Parishad (ABVP), India

BHANUKIRAN GURIJALA

CERTIFICATIONS AND LICENSURES

Effective Teaching Practices, Association of College and University Educators (ACUE) and The American Council on Education (ACE); Issued – 04/28/2021

Scrum Master Certified (SMC), SCRUMstudy; Issued – 09/22/2020; Expires – 09/22/2023

Scrum Fundamentals Certified (SFC), SCRUMstudy; Issued – 09/20/2020

MEDIA APPEARANCES

Article published in The Conversation, an independent non-profit news organization “What is Pegasus? A Cybersecurity expert explains how the spyware invades phones and what it does when it gets in”, 8/9/2021, <https://theconversation.com/what-is-pegasus-a-cybersecurity-expert-explains-how-the-spyware-invades-phones-and-what-it-does-when-it-gets-in-165382>

Interviewed by WVNS TV News following the Colonial Pipeline Attack, “Explainer: what is a cyber-attack?”, 5/12/2021, <https://www.wvnstv.com/top-news/explainer-what-is-a-cyber-attack/>

PROFESSIONAL MEMBERSHIPS

Project Management Institute (PMI), Member, 2017 –

Honor Society, Member, 2015 –

Text and Academic Authors Association (TAA), Member, 2013 –

American Society for Quality (ASQ), Member, 2011 –

Association for Computing Machinery (ACM), Member, 2010 –

IEEE Computer Society, **Senior Member**, 2009 –

Institute of Electrical and Electronics Engineers (IEEE), **Senior Member**, 2008 –

RESEARCH AND TEACHING INTERESTS

My research interest lies in cyber-security and software engineering, especially in quality assurance, formalisms and applying principles of software engineering to cyber-security.

Experience teaching face-to-face, online, and hybrid undergraduate and graduate-level diverse computer science, software engineering, and cybersecurity courses.

Interested in teaching Computer Science, Software Engineering, and Cyber-Security courses for undergraduates and graduates.

Interested in teaching special topic courses geared towards specialization topics in Software Engineering and Cyber-Security for undergraduates and graduates.

BHANUKIRAN GURIJALA

PROFESSIONAL SKILLS

Good written and oral communication skills as evidenced by articles published and presentations given to wide range of audience.

Programming Languages

Java, JSPs, SQL, ASP.NET, C#, Python, C, C++, 8086 Assembly Language, and ARM Assembly Language.

Logic: Prolog.

Statistical: Basic SAS 9.2 and R.

Security Tools

ZAP 2.6.0, Burp suite v1.7.24.

Web Technologies

JDBC, Servlets, EJBs, Struts Framework, HTML.

IDEs

Eclipse 3.1, Jdeveloper, Visual Studio 2017, PyCharm, µ Vision.

Database

MS SQL Server 2014, IBM DB2 8.1, Oracle 9i, MS Access.

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.

Servers

Weblogic 8.1, Tomcat 5.X, JBoss 4.2.1.

Design

Unified Modeling Language (UML) diagrams (use case, class, sequence, component, and deployment diagrams).

Software Metrics

COCOMO, COCOMO II, CMMI Levels.

Content Management Framework

Drupal 7.

Hypervisors

VirtualBox.

BHANUKIRAN GURIJALA

PROFESSIONAL EXPERIENCE

Industry Experience

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

Actively involved and co-managed the cyber-security initiative.

As scrum master, facilitated 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 automating regression testing for one of the major products.

Guided and led a team of four interns to generate automated scripts for regression testing.

Created test case specifications, designed, and wrote test cases.

Involved in the design meetings for adding new features to the 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 Texas State Government.

Programming using Java

Student Tech II, Jan 2007 – Aug 2007

University Computing and Telecommunications, UHCL

Involved in requirements gathering and creating Software Requirements Specification (SRS) document, and user manual documentation.

Programming using UNIX and performed Unit testing using Junit.

Senior Software Engineer, iGate Global Solutions Pvt. Ltd., India Sep 2005 – Dec 2006

Programming using J2EE and Struts

Involved in client calls and helped in updating SRS and Design documents.

Conducted Knowledge Transfer (KT) 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 programming and testing (unit and integration level) the application.

TEACHING EXPERIENCE

Experience teaching undergraduate and graduate level diverse computer science, software engineering, and cybersecurity courses. Experience in offering courses using face-to-face, online, and hybrid modes.

Assistant Professor (tenure-track), 2019 –

Computer Science and Information Systems Department,

BHANUKIRAN GURIJALA

West Virginia University Institute of Technology (WVU Tech)
Foundation of Cybersecurity (sophomore-level) (Fall 2021)
Cybersecurity Principles and Practice (senior-level) (Spring 2021 & 2020)
Computer System Concepts (junior-level) (Spring 2021 & 2020)
Operating Systems Structure (senior-level) (Fall 2021, 2020 & 2019)
C# (junior-level) (Fall 2020)
Data Structures (sophomore-level) (Fall 2020 & 2019)
Computer Languages – Python (junior-level) (Fall 2020)
Computer Science II – Java (freshman-level) (Spring 2020)
Computer Science I – Java (freshman-level) (Fall 2019)

Experience mentoring capstone project teams during their senior year.
Experience in advising undergraduate Computer Science and Information Systems students.
Actively assisted in setting up new Cybersecurity minor and Area of Emphasis (AoE) in the Computer Science and Information Systems Department.

Assistant Professor, 2017 – 2019
Computer Science, North American University (NAU)
Advanced Computer and Network Security (graduate-level, online) (Summer 2019)
Advanced Operating Systems (graduate-level, online) (Summer 2019)
Business Intelligence (graduate-level, online) (Summer 2019 & 2018)
Advanced Algorithms (graduate-level, online) (Spring 2019 & 2018)
Computer Organization (sophomore-level) (Spring 2019 & 2018 and Fall 2018 & 2017)
Systems Programming using UNIX and C (sophomore-level) (Spring 2019 & 2018)
Introduction to Computer Science II – Java (freshman-level) (Spring 2019 & 2018 and Fall 2018 & 2017)
Introduction to Computer Science I – Python (freshman-level) (Spring 2019 & 2018 and Fall 2018 & 2017)
Computer Architecture (graduate-level, online) (Fall 2018)
Algorithms (junior-level) (Fall 2018 & 2017)
Data Structures (sophomore-level, online) (Summer 2018)
Operating Systems (junior-level) (Fall 2017)

Experience in advising undergraduate and graduate Computer Science students

Lecturer, Aug 2014 – Dec 2014
Computer Science, UTEP Jun 2010 – Aug 2010
Computer Programming for Scientists and Engineers (sophomore-level course) (Fall 2014) co-taught as co-instructor
Software Testing, Verification, and Validation (graduate-level core course) (Summer 2010), Software Engineering program co-taught as principal instructor

Lead Graduate Teaching Assistant, Computer Science, UTEP 2010 – 2014
Software Architecture (graduate-level core course) (Fall 2010)
Software Engineering Requirements (senior-level course) (Fall 2013)
Software Engineering Design and Implementation (senior-level course) (Spring 2014)
Advanced Object-Oriented Programming (junior-level course) (Fall 2011 and Fall 2012)

BHANUKIRAN GURIJALA

Computer Architecture II (junior-level course) (Spring 2010)
Automata, Computability and Formal Languages (junior-level course) (Fall 2011)
Data Structures (sophomore-level course) (Spring 2011)
Elementary Data Structures (freshman-level course) (Spring 2012)

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.

Graduate Teaching Assistant, Software Engineering, UHCL Sep 2007 – Dec 2007
Personal Software Processes (graduate-level course) (Fall 2007)

RESEARCH EXPERIENCE

Research Associate, Cyber-shARE, UTEP 2014 – 2016
Conducted research and developed a metadata management system to support and promote interdisciplinary research (IDR).

Other Research Experience:

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 that resulted from my dissertation work.

Assisted in writing a grant proposal for NSF.

Experience writing mini grants for equipment and promoting undergraduate research.

Involved as Co-PI and submitted grant proposal for Innovation Grants Program.

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

Leadership

Faculty Mentor, ACM ICPC Programming Competition, 2019
WVU Tech, Beckley, WV, USA

Advisor, ACM Chapter, 2018 – 2019
NAU, Stafford, TX, USA

Strategic Planning Committee Member, 2018 – 2019
NAU, Stafford, TX, USA

Steering Committee Member, Distance Education, 2018 – 2019
NAU, Stafford, TX, USA

Steering Committee Member, Student Success Office, 2018 – 2019
NAU, Stafford, TX, USA

Member of the advisory board, Computer Science, 2017 – 2019

BHANUKIRAN GURIJALA

NAU, Stafford, TX, USA Advisor, ACM-W Chapter, NAU, Stafford, TX, USA	2017 – 2019
Member of the advisory board, Office of International Programs (OIP), UTEP, TX, USA	2012 – 2013
Member of the advisory board, Masters in Software Engineering, UTEP, TX, USA	2010 – 2011

University Service

Member of the Faculty Evaluation Committee, College of Engineering, WVU Tech, Beckley, WV, USA	2021 –
Member of the Faculty Search Committee, Computer Science, WVU Tech, Beckley, WV, USA	2019 –
Awards Committee Member, NAU, Stafford, TX, USA	2018 – 2019
Liaison, Institutional Assessment and Improvement Planning, Computer Science Department, NAU, Stafford, TX, USA	2017 – 2019
Webmaster, Indian Student Association (ISA), UTEP, El Paso, TX, USA	2013 – 2016

Professional Service

Judge, TAA Textbook Awards Program, TAA Special Session Organizer and Chair, The 5th International Conference on Communication, Management, and Information Technology	2019 – 2020 2018
Member of the Technical Program Committee, GSTF Journal on Computing (JoC)	2017 –
Journal Reviewer, Athens Institute for Education and Research (ATINER)	2015 –

Volunteer/Community Service

Judge, Summer Undergraduate Research Symposium, Morgantown, WV, USA	2021
Judge, Spring Undergraduate Research Symposium, Morgantown, WV, USA	2021
Judge, Math Field Day, Beckley, WV, USA	2020
Judge, First Lego League Robotics, Beckley, WV, USA	2019
Member, American Red Cross,	2010 –

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

BHANUKIRAN GURIJALA

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.

GRANTS

2021 Innovation Grants Program, An Engineering Laboratory with Remote Access, Co-PI with Afrin Naz, Mingyu Lu, Stephen Goodman, Charan Litchfield, and Sanish Rai. (submitted September 2020).

PROFESSIONAL DEVELOPMENT

Participated and completed **NSF I-Corps** (entrepreneurship bootcamp).

Participated and completed Python Essentials for Instructors.

REFERENCES

Available on request.