

BHANUKIRAN GURIJALA, Ph.D., ACUE

PERSONAL INFORMATION

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PROFESSIONAL INFORMATION

Computer Science Department
The University of Texas at El Paso
500 West University Avenue
El Paso, Texas – 79968
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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, Visvesvaraya Technological University (VTU) Rashtreeya Vidyalaya College of Engineering (RVCE), Bangalore, India	2005

PROFESSIONAL EXPERIENCE

Associate Professor of Instruction, Computer Science Department, The University of Texas at El Paso (UTEP), TX, USA	2023 -
Visiting Professor, Computer Science Department, The University of Texas at El Paso (UTEP), TX, USA	2022 – 2023
Assistant Professor (tenure-track), Computer Science and Information Systems (CSIS) Department, West Virginia University Institute of Technology (WVU-Tech), WV, USA	2019 – 2022
Assistant Professor (non-tenure-track), Computer Science Department, North American University (NAU), TX, USA	2017 – 2019
Quality Assurance Analyst, Heavy Construction Systems Specialists, Inc. (HCSS), TX, USA	2016 – 2017
Programmer Analyst, UR International Inc., TX, USA	2008 – 2009
Senior Software Engineer, iGate Global Solutions Pvt. Ltd., Karnataka, India	2005 – 2006

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HONORS AND AWARDS

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

CERTIFICATIONS AND LICENSURES

Certified Ethical Hacker (CEH)	EC-Council	Preparation in progress
Program Evaluator for Software Engineering	Accreditation Board for Engineering and Technology, Inc. (ABET)	Issued – 05/06/2024. See Credential here Expires – 05/06/2029
Inclusive Teaching for Equitable Learning (ITEL)	Association of College and University Educators (ACUE) and The American Council on Education (ACE)	Issued – 10/30/2022. See Credential here No Expiration.
Effective Teaching Practices (ETP)	Association of College and University Educators (ACUE) and The American Council on Education (ACE)	Issued – 04/28/2021. See Credential here No Expiration.
Scrum Master Certified (SMC)	SCRUMstudy	Issued – 09/22/2020. See Credential here Expires – 09/22/2023.
Scrum Fundamentals Certified (SFC)	SCRUMstudy	Issued – 09/20/2020. See Credential here No Expiration.

MEDIA APPEARANCES

Article published on 8/9/2021 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	https://theconversation.com/what-is-pegasus-a-cybersecurity-expert-explains-how-the-spyware-invades-phones-and-what-it-does-when-it-gets-in-165382
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Interviewed by WVNS TV
News following the Colonial
Pipeline Attack on 5/12/2021

**Explainer: what is a
cyber-attack?**

<https://www.wvnstv.com/top-news/explainer-what-is-a-cyber-attack/>

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.

PROFESSIONAL MEMBERSHIPS

Senior Member , Association for Computing Machinery (ACM)	2023 –
Senior Member , Institute of Electrical and Electronics Engineers (IEEE)	2021 –
Senior Member , IEEE Computer Society	2021 –
Member , Project Management Institute (PMI)	2017 –
Professional Member , ACM	2016 – 2023
Member , Honor Society	2015 –
Member , Text and Academic Authors Association (TAA)	2013 –
Member , American Society for Quality (ASQ)	2011 –
Student Member , ACM	2010 – 2016
Member , IEEE Computer Society	2009 – 2021
Member , IEEE	2008 – 2021

PROFESSIONAL SKILLS

Good written and oral communication skills as evidenced by articles published and presentations given to a 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, µVision.

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.

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Content Management Framework

Drupal 7.

Hypervisors

VMware, VirtualBox.

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 firms.

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, Sep 2005 – Dec 2006
iGate Global Solutions Pvt. Ltd., India
Programming using J2EE and Struts

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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 the 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.

Associate Professor of Instruction, Apr 2023 –
Computer Science Department,
The University of Texas at El Paso (UTEP)
Advanced Object-Oriented Programming (undergraduate level) (Fall 2024 & 2023,
Spring 2024, and Summer 2023)
Introduction to Computer Science (undergraduate level) (Summer 2024)
Software Construction (undergraduate and graduate level) (Fall 2024 & 2023)
Software Engineering: Design and Implementation (undergraduate level) (Fall 2023, and
Spring 2023)
Software Integration and Verification and Validation (undergraduate and graduate level –
Spring 2023)
Wireless Networks (undergraduate and graduate level) (Spring 2024 & 2023)

Visiting Professor, Jan 2022 – Mar 2023
Computer Science Department, UTEP
Advanced Object-Oriented Programming (undergraduate level) (Fall 2022)
Introduction to Computer Science (undergraduate level) (Fall 2022)
Software Construction (undergraduate and graduate level) (Fall 2022)
Software Integration and Verification and Validation (graduate level – Spring 2022)
Wireless Networks (undergraduate and graduate level) (Spring 2022)

Assistant Professor (tenure-track), Aug 2019 – Jan 2022
Computer Science and Information Systems Department,
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)

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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,

Aug 2017 – Aug 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 Jan 2010 – May 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)

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.

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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

CAHSI LREU Mentor, UTEP Feb 2024 –
Involved as a mentor with the Computing Alliance of Hispanic-Serving Institutions (CAHSI) Local Research Experience for Undergraduates (LREU) program. Mentored two undergraduate students (women) on the project titled “Cybersecurity for High-Risk Artificial Intelligence (AI) Systems” which resulted in posters, that we plan to present at GMiS Conference.

Mentor, UTEP Feb 2024 –
Involved as a mentor mentoring two undergraduate students on the project titled “Cybersecurity for Civilian Drones”. This project focuses on the key cybersecurity threats to civilian drones and how to mitigate them.

Research Associate, Cyber-shARE, UTEP Jun 2014 – May 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 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 a grant proposal for the 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 Advisor, Free and Open-Source Software Club, 2024 –
UTEP, El Paso, TX, USA

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Faculty Advisor , IEEE Student Organization, WVU Tech, Beckley, WV, USA	2021 – 2022
Member of the Advisory Council , Academy of Careers and Technology, Beckley, WV, USA	2021 – 2022
Member of the Advisory Board , Computer Science & Information Systems, WVU Tech, WV, USA	2019 – 2022
Faculty Mentor , ACM ICPC Programming Competition, WVU Tech, Beckley, WV, USA	2019
Faculty Advisor , ACM Chapter, NAU, Stafford, TX, USA	2018 – 2019
Strategic Planning Committee Member , NAU, Stafford, TX, USA	2018 – 2019
Steering Committee Member , Distance Education, NAU, Stafford, TX, USA	2018 – 2019
Steering Committee Member , Student Success Office, NAU, Stafford, TX, USA	2018 – 2019
Member of the Advisory Board , Computer Science, NAU, Stafford, TX, USA	2017 – 2019
Faculty Advisor , ACM-W Chapter, NAU, Stafford, TX, USA	2017 – 2019
Member of the Advisory Board , Office of International Programs (OIP), UTEP, El Paso, TX, USA	2012 – 2013
Member of the Advisory Board , Master's in Software Engineering, UTEP, El Paso, TX, USA	2010 – 2011

University Service

Member of the Faculty Evaluation Committee , College of Engineering, WVU Tech, Beckley, WV, USA	2021 – 2022
Member of the Faculty Search Committee , Computer Science, WVU Tech, Beckley, WV, USA	2019 – 2022
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

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Professional Service

CSAB/ABET Program Evaluator for Software Engineering	2024 – 2029
Program Committee Member (Artifact Evaluation), The ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA)	2024
CSAB/ABET Program Evaluator Candidate for Software Engineering	2023 – 2024
Member , IEEE Standards Association (IEEE-SA), IEEE P3396 – Recommended Practice for Defining and Evaluating Artificial Intelligence (AI) Risk, Safety, Trustworthiness, and Responsibility	2023 –
Member , IEEE Standards Association (IEEE-SA), IEEE P3349 – Standard for Space System Cybersecurity	2023 –
Secretary and Member , IEEE Standards Association (IEEE-SA), IEEE P3407 – Standard for End-to-End Software Testing Automation Tools	2023 –
Member , IEEE Senior Member Application Review Panel	2023 –
Judge , TAA Textbook Awards Program, TAA	2023 – 2024
Program Committee Member (Artifact Evaluation), The ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA)	2023
External Reviewer for Promotion and Tenure , Missouri Western State University	2021
Judge , TAA Textbook Awards Program, TAA	2019 – 2020
Special Session Organizer and Chair , The 5th International Conference on Communication, Management, and Information Technology	2018
Member of the Technical Program Committee , GSTF Journal on Computing (JoC)	2017 –
Journal Reviewer , Athens Institute for Education and Research (ATINER)	2015 –

Volunteer/Outreach/Community Service

Cybersecurity Expert , STEMCARE, Beckley, WV, US	2021
Guest Speaker/Presenter , Independence High School, Sophia, WV, USA	2021
Judge , Summer Undergraduate Research Symposium, Morgantown, WV, USA	2021

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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 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 10 hours of training in **HyFlex** Academy.
- Participated and completed Teaching with Artificial Intelligence Academy (TAIA)
- Participated and completed **Python Essentials** for Instructors.

REFERENCES

Available on request.