

# BHANUKIRAN GURIJALA, Ph.D., ACUE

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## PERSONAL INFORMATION

E-mail: [bhanukiran.gurijala@hotmail.com](mailto:bhanukiran.gurijala@hotmail.com)  
Website: <https://www.gurijalas.com>  
LinkedIn: <https://www.linkedin.com/in/drbbhanukirangurijala>

## PROFESSIONAL INFORMATION

Computer Science Department  
The University of Texas at El Paso  
500 West University Avenue  
El Paso, Texas – 79968  
Phone: +1-(915)-747-5827  
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## EDUCATION

Ph.D. (Doctor of Philosophy) in Computer Science, The University of Texas at El Paso (UTEP), TX, USA	2016
M.S. (Master of Science) 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

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## PROFESSIONAL EXPERIENCE

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

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## HONORS AND AWARDS

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

## CERTIFICATIONS AND LICENSURES

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

## MEDIA APPEARANCES

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

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## 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.

Recently working on cyber-security concerns for Internet of Things (IoT) especially drones, and high-risk Artificial Intelligence (AI) systems.

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.

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## PROFESSIONAL MEMBERSHIPS

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

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## PROFESSIONAL SKILLS

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

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## 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.

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## Security Tools

ZAP 2.6.0, Burp suite v1.7.24.

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## Web Technologies

JDBC, Servlets, EJBs, Struts Framework, HTML.

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## IDEs

Eclipse 3.1, Jdeveloper, Visual Studio 2017, PyCharm, µVision.

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## Database

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

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## 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.

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## Servers

Weblogic 8.1, Tomcat 5.X, JBoss 4.2.1.

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## Design

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

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## Software Metrics

COCOMO, COCOMO II, CMMI Levels.

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## Content Management Framework

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Drupal 7.

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## Hypervisors

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VMware, VirtualBox.

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## PROFESSIONAL EXPERIENCE

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### Industry Experience

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

Actively involved and co-managed the cyber-security initiative for Web and mobile applications by setting up an in-house team for performing penetration testing.

As a scrum master, facilitated sprint planning, daily scrums, retrospectives, stakeholder meetings, and software demonstrations.

Part of the team, involved in automating and managing the test suite for testing all Web and mobile applications.

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

**Software Testing Intern**, HCSS, Houston, TX May 2013 – Aug 2013  
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 the 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 the Texas State Government.  
Programming using Java.

**Student Tech II**, University Computing and Telecommunications, UHCL Jan 2007 – Aug 2007  
Involved in requirements gathering and creating Software Requirements Specification (SRS) documents, and user manual documentation.  
Programming using UNIX and performed Unit testing using Junit.

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**Senior Software Engineer,** Sep 2005 – Dec 2006  
iGate Global Solutions Pvt. Ltd., India  
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 the team that is involved in requirements gathering and creating SRS.  
Actively involved in programming and testing (unit and integration level) the application.

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## TEACHING EXPERIENCE

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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 junior-level course) (Spring 2025 & 2024, Fall 2024 & 2023, and Summer 2023)  
Introduction to Computer Science (undergraduate freshman-level course) (Summer 2024)  
Software Construction (undergraduate senior-level and graduate-level course) (Fall 2024 & 2023)  
Software Engineering: Design and Implementation (undergraduate senior-level course) (Spring 2025 & 2023, and Fall 2023)  
Software Integration and Verification and Validation (undergraduate senior-level and graduate-level course) (Spring 2023)  
Wireless Networks (undergraduate senior-level and graduate-level course) (Spring 2024 & 2023)

**Visiting Professor,** Jan 2022 – Mar 2023  
Computer Science Department, **UTEP**  
Advanced Object-Oriented Programming (undergraduate junior-level course) (Fall 2022)  
Introduction to Computer Science (undergraduate freshman-level course) (Fall 2022)  
Software Construction (undergraduate senior-level and graduate-level course) (Fall 2022)  
Software Integration and Verification and Validation (graduate-level course) (Spring 2022)  
Wireless Networks (undergraduate senior-level and graduate-level course) (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 (undergraduate sophomore-level course) (Fall 2021)

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Cybersecurity Principles and Practice (undergraduate senior-level course) (Spring 2021 & 2020)

Computer System Concepts (undergraduate junior level course) (Spring 2021 & 2020)

Operating Systems Structure (undergraduate senior-level course) (Fall 2021, 2020 & 2019)

C# (junior level) (Fall 2020)

Data Structures (undergraduate sophomore-level course) (Fall 2020 & 2019)

Computer Languages – Python (undergraduate junior-level course) (Fall 2020)

Computer Science II – Java (undergraduate freshman-level course) (Spring 2020)

Computer Science I – Java (undergraduate freshman-level course) (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 a new Cybersecurity minor and Area of Emphasis (AoE) in the Computer Science and Information Systems Department.

Actively involved in creating and developing curriculum for the new courses that are part of the Cybersecurity minor and AoE.

### **Assistant Professor,**

Aug 2017 – Aug 2019

Computer Science, North American University (NAU)

Advanced Computer and Network Security (graduate-level course, online) (Summer 2019)

Advanced Operating Systems (graduate-level course, online) (Summer 2019)

Business Intelligence (graduate-level course, online) (Summer 2019 & 2018)

Advanced Algorithms (graduate-level course, online) (Spring 2019 & 2018)

Computer Organization (undergraduate sophomore-level course) (Spring 2019 & 2018 and Fall 2018 & 2017)

Systems Programming using UNIX and C (undergraduate sophomore-level course) (Spring 2019 & 2018)

Introduction to Computer Science II – Java (undergraduate freshman-level course) (Spring 2019 & 2018 and Fall 2018 & 2017)

Introduction to Computer Science I – Python (undergraduate freshman-level course) (Spring 2019 & 2018 and Fall 2018 & 2017)

Computer Architecture (graduate-level course, online) (Fall 2018)

Algorithms (undergraduate junior-level course) (Fall 2018 & 2017)

Data Structures (undergraduate sophomore-level course, online) (Summer 2018)

Operating Systems (undergraduate junior-level course) (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 (undergraduate 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.

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

Software Architecture (graduate-level core course) (Fall 2010)

Software Engineering Requirements (undergraduate senior-level course) (Fall 2013)

Software Engineering Design and Implementation (undergraduate senior-level course) (Spring 2014)

Advanced Object-Oriented Programming (undergraduate junior-level course) (Fall 2011 and Fall 2012)

Computer Architecture II (undergraduate junior-level course) (Spring 2010)

Automata, Computability and Formal Languages (undergraduate junior-level course) (Fall 2011)

Data Structures (undergraduate sophomore-level course) (Spring 2011)

Elementary Data Structures (undergraduate 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, which resulted in a 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)

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## RESEARCH EXPERIENCE

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**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 (underrepresented and minority women) on the project titled “Cybersecurity for High-Risk Artificial Intelligence (AI) Systems” which resulted in two posters, that we plan to present at the Great Minds in STEM (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 the technology transfer of the innovation that resulted from my dissertation work.

Assisted in writing a grant proposal for NSF.



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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.

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### SERVICE

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#### Leadership

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<b>Faculty Advisor</b> , Free and Open-Source Software Club (FOSS), UTEP, El Paso, TX, USA	2024 –
<b>Faculty Advisor</b> , IEEE Student Organization, WVU Tech, Beckley, WV, USA	2021 – 2022
<b>Member of the Advisory Council</b> , Academy of Careers and Technology, Beckley, WV, USA	2021 – 2022
<b>Member of the Advisory Board</b> , Computer Science & Information Systems, WVU Tech, WV, USA	2019 – 2022
<b>Faculty Mentor</b> , ACM ICPC Programming Competition, WVU Tech, Beckley, WV, USA	2019
<b>Faculty Advisor</b> , ACM Chapter, NAU, Stafford, TX, USA	2018 – 2019
<b>Strategic Planning Committee Member</b> , NAU, Stafford, TX, USA	2018 – 2019
<b>Steering Committee Member</b> , Distance Education, NAU, Stafford, TX, USA	2018 – 2019
<b>Steering Committee Member</b> , Student Success Office, NAU, Stafford, TX, USA	2018 – 2019
<b>Member of the Advisory Board</b> , Computer Science, NAU, Stafford, TX, USA	2017 – 2019
<b>Faculty Advisor</b> , ACM-W Chapter, NAU, Stafford, TX, USA	2017 – 2019
<b>Member of the Advisory Board</b> , Office of International Programs (OIP), UTEP, El Paso, TX, USA	2012 – 2013
<b>Member of the Advisory Board</b> , Master's in Software Engineering, UTEP, El Paso, TX, USA	2010 – 2011

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### University Service

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<b>Member of the Faculty Evaluation Committee,</b> College of Engineering, WVU Tech, Beckley, WV, USA	2021 – 2022
<b>Member of the Faculty Search Committee,</b> Computer Science, WVU Tech, Beckley, WV, USA	2019 – 2022
<b>Awards Committee Member,</b> NAU, Stafford, TX, USA	2018 – 2019
<b>Liaison,</b> Institutional Assessment, and Improvement Planning, Computer Science Department, NAU, Stafford, TX, USA	2017 – 2019
<b>Webmaster,</b> Indian Student Association (ISA), UTEP, El Paso, TX, USA	2013 – 2016

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### Professional Service

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

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**Journal Reviewer,** 2015 –  
Athens Institute for Education and Research (ATINER)

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## **Volunteer/Outreach/Community Service**

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**Judge,** Summer Undergraduate Research Symposium, 2024  
El Paso, TX, USA

**Judge,** Spring Undergraduate Research Symposium, 2024  
El Paso, TX, USA

**Cybersecurity Expert,** STEMCARE, Beckley, WV, US 2021

**Guest Speaker/Presenter,** Independence High School, Sophia, WV, USA 2021

**Judge,** Summer Undergraduate Research Symposium, 2021  
Morgantown, WV, USA

**Judge,** Spring Undergraduate Research Symposium, 2021  
Morgantown, WV, USA

**Judge,** Math Field Day, Beckley, WV, USA 2020

**Judge,** First Lego League Robotics, Beckley, WV, USA 2019

**Member,** American Red Cross 2010 –

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## **PUBLICATIONS**

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**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.

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### **Conference Publications**

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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.

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### **Conference Posters and Presentations**

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Cybersecurity for High-Risk Artificial Intelligence (AI) Systems, Great Minds in STEM (GMiS) November 2024, Presenter: Cristina Alarcon, Mentor: **Dr. Bhanukiran Gurijala**.

Evaluating the Impact of Model Poisoning on High-Risk Artificial Intelligence (AI) Systems, Great Minds in STEM (GMiS) November 2024, Presenter: Kimberly Opara, Mentor: **Dr. Bhanukiran Gurijala**.

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## INVITED PRESENTATIONS

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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.

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## GRANTS

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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).

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## PROFESSIONAL DEVELOPMENT

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Participated in and completed **NSF I-Corps** (entrepreneurship boot camp).

Participated in and completed the CAHSI Affinity Research Group Model: Creating and Maintaining Effective Research Teams course.

Participated in and completed 10 hours of training at **HyFlex** Academy.

Participated in and completed Student Engagement with Technology Institute (SETI).

Participated in and completed Teaching with Artificial Intelligence Academy (TAIA).

Participated in and completed **Python Essentials** for Instructors.

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## REFERENCES

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Available on request.