VIJAYANTH TUMMALA

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Academic Background

Florida Institute of Technology (GPA 3.5/4.0)   *August 2017-Jul2022*
Doctor of Philosophy in Computer Science
Research: AI, Human-AI Teamwork, Cybersecurity
Courses Taken: Information Security, Big Data Management, Formal Language & Automata, Analysis of Algorithm, Network Security, Cryptology, Biometric Authentication, Artificial Intelligence

Webster University (GPA 3.73/4.0)   *October2012-December 2014*
Master of Science in Computer Science
Courses Completed: System Concepts, Computational Mathematics, College Algebra, Organizational Behavior, Distributed Systems, Object Oriented Analysis and Design, Object Oriented Programming, Computer Security and Reliability, Agile Methodology, Database Architecture& Design, Database Development, Distributed Application Development, Data Communications, Distributed Systems Project.

University of Mumbai   *Aug 2009-June 2012*
Bachelor of Science in Information Technology

TECHNICAL SKILL

Languages:	C, C++, Java, SAP ABAP, Python, PHP,
OS:	Windows server 2003/ XP/2K/NT, Windows XP/ 9X/2000
Web designing:	JavaScript, HTML5, CSS, JSON, AJAX, Web Server Configuration.
Database:	SQL 2005, SQL 2008r2, MS Access, Oracle, SQL Developer
Hardware:	PC installation/assembly, Network troubleshooting
Tools/Libraries:	MS Office (Word, Excel, PowerPoint, Visio, FrontPage), CNN, Tensor Flow, OpenCV
Cybersecurity:	FTK, Autopsy, Hashcat - password breaker, Wireshark, ImHex

WORK EXPERIENCE

Ball State University   *Jul 2023- Current*
Tenure Track Assistant Professor of Computer Science

- **Instructor for Introduction to Cybersecurity Course:** Teaching a comprehensive course on cybersecurity and its relevant concepts.
- **Instructor for Introduction to Digital Forensic Course:** Delivering an online introductory course in digital forensics, equipping students with essential skills and knowledge in this increasingly relevant area of cybersecurity.

Embry-Riddle Aeronautical University   *Jul 2023- Current*
Tenure Track Assistant Professor of Cybersecurity

- **Co-Principal Investigator for AI Humanities Research Center Grant (Application In-Progress):** Applying for a $0.5 million grant, reflecting **my dedication to advancing AI research center focusing on Societal, Ethical impact of AI. I will be assigned the Associate Director for the AI Research Center if the grant is approved.**
- **Development of an Advanced Simulation Lab:** Part of the team and leading the technological requirements associated with establishing a state-of-the-art laboratory for Homeland Security, Global Conflict, Cybersecurity, AI and AI Security simulations, signifying a commitment to providing hands-on learning experiences in emerging technologies.
- **Instructor for Introduction to Cybersecurity Course:** Teaching a comprehensive course on cybersecurity and its relevant concepts along the lines of COMPTIA Security+ certification.
- **Instructor for Computer and Network Technology Course:** Teaching a comprehensive course on computer and network technology, covering fundamental and advanced concepts crucial for students in the tech field.

- **Instructor for Introduction to Digital Forensic Course:** Delivering an introductory course in digital forensics, equipping students with essential skills and knowledge in this increasingly relevant area of cybersecurity.
- **Research:** Identification of strengths and drawbacks of LLM's and their implications in multiple domains and KSA needed for workforce development capable of addressing the issues with LLM's.

Indiana Institute of Technology (Fort Wayne)   *Jul 2022- June 2023*

Director of Cybersecurity Center, Program Chair for Cybersecurity Academic Program, Tenure Track Assistant Professor of Cybersecurity

- **Director and Primary Contact for CAE-CD Designation Application (Successfully Approved)**: Spearheaded the application process and secured the prestigious CAE-CD designation for the institution.
- **Collaboration with Fort Wayne Police Department's High-Tech Crime Unit:** Established a partnership to facilitate internship opportunities, enhancing practical learning experiences for students in the field of cybersecurity. One of ten such newly approved by the state of Indiana.
- **Developed the Master of Science in Cybersecurity Program:** Pioneered the creation of a comprehensive cybersecurity master's degree with cutting-edge tracks such as AI for Cybersecurity.
- **Management of Academic Staff and Students:** Oversaw a team of 4 adjunct faculty members and fulltime Cybersecurity Team Coach, ensuring high-quality education and mentoring. Oversaw and managed 150 students within the cybersecurity program.
- **Development of a Center for Cybersecurity Lab:** Co-lead the development of Center for Cybersecurity, signifying a commitment to providing hands-on learning experiences in emerging technologies.
- **Annually Presented to Board of Trustees:** Selected as a part of the group of faculties to deliver sample lecture presentations to the Board of Trustees, showcasing significant contributions to the academic and professional community.
- **Instructor for Advanced Programming Courses:** Taught Programming II and Programming III, imparting advanced programming skills and concepts to students.
- **Chair of the Cybersecurity Professor Search Committee:** Led the search and recruitment efforts for a new cybersecurity professor, enhancing the department's academic strength.
- **Cybersecurity Course Educator:** Delivered comprehensive cybersecurity courses, covering both theoretical and practical aspects of the field.
- **Member of the Diversity and Inclusion Committee:** Actively contributed to promoting diversity and inclusivity within the academic community.
- **Participant in the College of Engineering and Science's Ad-Hoc Teams**: Engaged in three special teams focused on improving various aspects of the college, including industry collaboration and new program development.
- **Participant in the CAE Symposium for Cybersecurity (Atlanta, Virtually):** Contributed to discussions and knowledge sharing at the prominent cybersecurity symposium.
- **Attendee at Cybersecurity Workshop for CAE Designated Universities (UWF):** Participated in specialized workshops, furthering knowledge and skills in cybersecurity education.
- **Presenter at Rotary Club:** Provided an insightful overview of the current landscape and future directions in cybersecurity to community members.

Indiana Institute of Technology (Fort Wayne)   *Jan 2022- June 2022*

Tenure Track Assistant Professor of Cybersecurity

- **Development of Interdisciplinary Cybersecurity Certificates:** Instrumental in creating cutting-edge cybersecurity certificates under a **$1.5 million EDA grant**, significantly enhancing the academic portfolio and addressing industry needs.
- **Key Member of the Cybersecurity Professor Search Committee:** Actively involved in the selection process, contributing to the recruitment of top-tier talent for the cybersecurity department.
- **Developed Two Online Courses:** Developed and launched two comprehensive online courses, leveraging digital platforms to extend the reach and accessibility of cybersecurity education.

- **Assistant in the CAE-POS Designation Application:** Played a pivotal role in the application process for the CAE-POS designation, showcasing commitment to academic excellence and program development.
- **Educator in Cybersecurity and Software Programming:** Provided instruction in both cybersecurity and programming courses, imparting critical skills and knowledge to students in these high-demand areas.
- **Program Chair for Cybersecurity Program:** Appointed as the Program Chair, overseeing the cybersecurity program's strategic direction, curriculum development, and overall academic quality.

Florida Institute of Technology (Melbourne) *Jan 2020- Dec 2021*
Instructor (Computer Science)
- Develop the Syllabus for the C++ course
- Develop the content to teach students
- Conduct lectures so that students can gain Knowledge
- Lectures conducted in-class and also streamed online (synchronously & asynchronously)
- Explain programming concepts
- Manage two student employees

Florida Institute of Technology (Melbourne) *Aug 2017- Dec 2019*
Graduate Student Teaching Assistant
- Help students learn Fortran, C++
- Teach & conduct Lab sessions for students so that they can gain practical Knowledge
- Explain programming concepts
- Grading of lab assignments

AT&T Labs (Redmond, WA) *June 2019-Aug 2019*
Student Intern (Technical II, PHD)
- Developed Python script that automates processes
- The script is used by the automation team to remove manual dependency of an existing tool.
- <u>This script is running nightly and several gigabytes of user data is collected which is available to testers of the automation test team to analyze</u>
- This script is critical to support the automation team as well as the certification of next generation platform
- Created tool which makes API calls and gathers user data on the network and generates PCAP.

AT&T Labs (San Ramon, CA) *May 2018- July 2018*
Student Intern (Technical II, PHD)
- Network Data Analysis using Python
- Probe Capacity Analysis using Python
- <u>The Development of 2 Network Tools improved the data Analysis process, configuring and managing network devices easier and saved time as it brought important data from different parts of network and available to the user. Instead of using multiple tools to get the information</u>.
- Dashboard Development Displaying Network Data and suggesting Sampling Decisions. This Tool Displayed Network data and suggests the user about the sampling rate that should be used. <u>This tool automates majority of the decision making process.</u>

Monsanto (Saint Louis) *Feb 2015-Aug 2015*
Software Developer, SAP ABAP Developer
- Understanding the business Concepts.
- Converting the Business Requirements into FDS and then creating appropriate tickets
- Coordinating with other teams and Getting Changes done based on Business Requirements.
- Code Cleanup
- Debug the program according to the FDS in the CHARM
- Create an application (Resource Availability Application) using HTML5, CSS, Java-script

- Also make use of JSON, AJAX, Rest-Service
- Debug the program according to the FDS in the CHARM for HR
- Support & enhancement for HR Module.

Monsanto (Saint Louis)   *June 2014-December2014*
Software Developer, SAP ABAP Developer (IT CO-OP)
- Understanding the business Concepts.
- Analysis of the changes required for the application
- Converting the Business Requirements into FDS and then creating appropriate tickets
- Coordinating with other teams and Getting Changes done based on Business Requirements.
- Create Different types of reports using ABAP codes. (ALV Report, Simple Reports, Interactive Reports)
- Code Cleanup
- Debug the program according to the FDS in the CHARM
- Screen-Programming
- <u>Solely developed an Automation Macro which will be used Globally</u>
- Create an application using HTML5, CSS, Java-script
- Also make use of JSON, AJAX, Rest-Service

Research Paper/Poster/Presentations
- International Mechanical Engineering Congress and Exposition: Tummala, V. S., Agarwal, A., Gill, A.S., Lee, S., Mears, L., "Evaluating the Impact of Cyberattacks on AI-Based Machine Vision Systems: A Case Study of Threaded Fasteners", Nov-2025.
- International Mechanical Engineering Congress and Exposition: Tummala, V. S., Agarwal, Bottomley, K., A., Gill, A.S., Lee, S., "AI and Cybersecurity Literacy Course for Mechanical Engineers", Nov-2025.
- Journal for Leadership Studies, Tummala, V. S., Burris-Melville, T. S., Eskridge, T. C., "AI as a Team Member: Redefining Collaboration", Mar-2025.
- Journal for Leadership Studies, Tummala, V. S., Burris-Melville, T. S., Eskridge, T. C., "Symposium Introduction: Whither AI? Leadership at the Crossroads of Innovation and Responsibility.", Mar-2025.
- International Leaders Association Global Conference, Tummala, V. S, Bottomley, K., "Empowering AI Leaders: Educational Modules for Developing Core Competencies in Ethical AI and Cybersecurity", Nov-2024.
- International Mechanical Engineering Congress and Exposition: Gill, A.S., Agarwal, A., Tummala, V. S., Lee, S., Mears, L., "Comparison of Explainable AI for Image Classification to Human Perception: A Case Study of Threaded Fastners", Nov-2024. **Winner of Best Paper Competition within ASME's Emerging Strategic Areas, "Artificial Intelligence"**.
- IEEE Access, Journal Submission: Dhakal, R., Raza, W., Kandel, L., Tummala, V. S, "Enhancing Intrusion Detection in IoT Networks through Federated Learning", Nov-2024.
- Ph.D Dissertation : Tummala, V. S, Eskridge, T., "Advancing Teamwork in Human-Agent Teams". Jul-2022.
- Poster & Presentation. Tummala, V. S., "Common Shared Mental Model Architecture", College of Engineering and Science Doctoral Candidate Showcase, Florida Institute of Technology, Melbourne, FL, USA.Nov -2019
- Poster & Presentation. Tummala, V. S., "Review of Teamwork in Human Teams", College of Engineering and Science Doctoral Candidate Showcase, Florida Institute of Technology, Melbourne, FL, USA.Nov-2019
- Poster & Presentation. Tummala, V. S., "Review of Teamwork in Automated Teams", College of Engineering and Science Doctoral Candidate Showcase, Florida Institute of Technology, Melbourne, FL, USA.Nov-2019

Awards
- **2024:**

- o Winner of Best Paper Competition within ASME's Emerging Strategic Areas, "Artificial Intelligence"
- o Faculty Research Development Program (FRDP) Grant
- o Mentored 2 Students to receive external student travel grant to attend ERAU-NASA-NSF aviation cybersecurity workshop.
- **2023:**
  - o Led and received Center of Academic Excellence – Cyber Defense award for Indiana Tech.
- **2020:**
  - o Outstanding Student of the Year Award