Submission for the Dean's Distinction in Industrial or Community Engagement in Teaching award – John Chambers College of Business and Economics- WVU.

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Dears the committee members of the Distinction in Industrial or Community Engagement in Teaching Award at John Chambers College of Business and Economics at West Virgina University,

Thank you for the opportunity to submit materials for the **Distinction in Industrial or Community Engagement in Teaching award for the period 1/1/2025 – 8/15/2025**. This report documents my sustained engagement with industry and community partners through my teaching activities during the Spring and Summer 2025 semesters. My approach to teaching emphasizes the direct integration of real-world challenges, applied technologies, and professional standards into the classroom. Across my cybersecurity and MIS courses, I deliberately design learning experiences that move beyond simulated exercises and instead require students to work with authentic industry practices and community-based applications.

A core component of my industrial engagement in teaching is my supervision of a graduate capstone project in the MS Business Cybersecurity Management program. This is a continuation of working with the same industry partner since 2023. During the Summer 2025 semester, I supervised a team of master's students working with Skypunch, an online voting system operating under Vantage Venture and Trilogy, a Chambers College–affiliated industry partner. The project addressed the cybersecurity and compliance challenges faced by Skypunch in its journey to become federally eligible to operate in WV and nationwide. Students evaluated Skypunch's system controls, aligned findings with the recognized industry framework OWASP Levels 3 and 4, and produced detailed reports containing actionable recommendations intended for direct organizational use. I met with student teams weekly, guided their technical and analytical work, and ensured that project outcomes aligned with Skypunch's expectations.

In addition to capstone supervision, I embed industry-aligned tools and workflows throughout my coursework. Students work directly with professional technologies such as Docker, Kali Linux, and penetration testing frameworks, building and managing their own environments rather than relying on third-party simulations. This approach ensures

sustained exposure to industry standards across multiple courses and reinforces applied learning throughout the curriculum.

My commitment to community engagement in teaching is reflected in my participation in the Governor's Honors Academy, specifically the "AI Apps for Appalachia" initiative hosted at WVU during the Summer 2025. Through a hands-on workshop on User Interface and User Experience (UI/UX) design for high school students, I extended classroom expertise beyond the university and contributed to community-based education focused on accessible and user-centered technology development.

All activities described in this report are documented in Digital Measures and fall within the eligibility period for this award. Supporting materials can be provided as needed. Through sustained industry partnerships, applied coursework, and community-focused teaching, my goal is to create learning environments that prepare students for professional practice while delivering meaningful value to external stakeholders.

Respectfully submitted,
Mohammad Jamil Ahmad

1. Overview of Industrial and Community Engagement in Teaching

My teaching approach consistently emphasizes direct engagement with industry and community partners by embedding real organizational challenges, applied tools, and professional standards directly into the classroom. Through my cybersecurity and MIS courses, I integrate applied technologies and external partnerships to ensure that students gain hands-on experience that closely reflects professional practice.

These engagement activities span undergraduate and graduate courses, asynchronous and in-person delivery, industry-sponsored capstone projects, and community-based outreach through WVU-hosted programs. Rather than treating engagement as a one-time activity, I design courses where industry and community involvement is sustained across the semester and embedded into core learning objectives and assessments.

2. Industry Engagement Embedded in Coursework

a. Graduate Capstone Projects with Industry Partners (CYBR555)

A primary example of my industrial engagement in teaching is my supervision of graduate capstone projects in the Business Cybersecurity Management program. During the 2025 academic year, I supervised capstone teams working with Chambers College–affiliated industry partners, including Skypunch, an online voting system business operating under Vantage Venture and Trilogy.

These capstone project was designed to address active, real-world cybersecurity and compliance challenges rather than hypothetical or simulated case studies. For the Skypunch project, students evaluated the organization's online voting system against Levels 3 and 4 of the Open Worldwide Application Security Project (OWASP) framework. The student team analyzed more than 66 security controls, evaluated their implementation, and identified compliance gaps.

The primary delivery was a comprehensive report outlining whether each control was followed, accompanied by detailed findings, recommendations, and actionable steps required to achieve compliance. This work was conducted in alignment with guidance associated with the WVU Cyber-resilience Resource Center, in partnership with the Joint Force Headquarters at the Department of Defense Information Network (JFHQ-DODIN) and U.S. Cyber Command. The resulting deliverables were intended for direct organizational use and to support Skypunch's broader efforts toward meeting nationally recognized cybersecurity expectations.

This report was intended for direct organizational use. I met with student teams at least once per week to guide technical progress, review findings, and ensure alignment with professional expectations and partner needs. I also developed tracking tools to monitor progress and provided continuous feedback throughout the semester. Please refer to the final report submitted to Skypunch.

This work reflects sustained industry engagement, as my collaboration with Skypunch builds upon previous years' projects rather than restarting each cycle. The 2025 team continued work initiated by earlier cohorts, contributing to the organization's longer-term compliance goals.

Please see the final project report.

b. Integration of Industry Standards and Professional Tools in Courses (MIST400 and CYBR545).

Beyond capstone supervision, I embed industry-aligned tools, workflows, and practices throughout my cybersecurity and MIS courses, including MIST400 (Advanced Information Security) and CYBR545 (Business Cybercrime Management).

In these courses, students work directly with professional technologies commonly used in the penetration testing industry, such as Docker, Kali Linux, penetration testing frameworks, and vulnerability assessment tools. Rather than relying on third-party or paid simulation platforms, I require students to build and manage their own environments. Students construct simulated networks using Dockers, conduct system scans, investigate real vulnerabilities, and analyze root causes.

Assignments emphasize documentation and reporting formats consistent with professional cybersecurity practice. This approach ensures that engagement with industry standards is sustained throughout the course and not limited to a single project or activity.

Please see the syllabi and some examples of class assessments.

3. Community Engagement through Teaching

a. Governor's Honors Academy – AI Apps for Appalachia

My community engagement in teaching extends beyond the university classroom through my participation in the Governor's Honors Academy (GHA), specifically the "AI Apps for Appalachia" initiative hosted at WVU.

As part of this program, I delivered a hands-on workshop on User Interface and User Experience (UI/UX) design for high school students. The workshop introduced applied computing concepts with a focus on accessibility, usability, and user-centered design. Students were exposed to how design decisions impact real users and communities, reinforcing the importance of inclusive and practical technology development.

This activity combined teaching, outreach, and service and reflects my commitment to extending classroom expertise to the broader community through WVU-sponsored programs.

Please see the website I designed for this workshop.

4. Sustained Engagement and Student Impact

Across my teaching portfolio, I emphasize sustained engagement rather than one-time interactions. Industry and community involvement is embedded into course design, assessment structure, and student deliverables. Students collaborate in teams, communicate findings to external stakeholders, and produce work aligned with professional expectations and real organizational needs.

Through these engagements, students gain experience working with industry standards, applied technologies, and external partners. These experiences help prepare students for professional practice while also providing tangible value to business and community organizations.

Through the integration of industry partnerships, applied standards, and community-based teaching activities, my goal is to create learning environments that closely mirror professional practice while serving broader community needs. My approach emphasizes applied learning, sustained engagement, and meaningful collaboration between students, industry partners, and the community. These efforts reflect my ongoing commitment to industrial and community engagement in teaching.

Thank you,

Mohammad Jamil Ahmad