

An Analysis of Australian Cybersecurity Postgraduate Degrees

Authors : Michael James, Michael Bewong, Yeslam Al-Saggaf, Jason Howarth

Abstract : The shortage of cybersecurity professionals is a widely recognized and documented issue. However, the role of higher education institutions in addressing this challenge is less understood. While universities are key contributors to workforce development, there is limited research on their relationship with the global shortage of cybersecurity professionals. Existing studies primarily focus on curricular design, emphasizing the technical skills required by the industry but often lacking active engagement with industry stakeholders. Prior research highlights that designing an effective cybersecurity curriculum requires direct input from industry professionals to ensure graduates are equipped with the skills needed for employment. Additionally, industry collaboration with high schools has been shown to encourage more students to pursue careers in cybersecurity. A notable gap in the literature is the lack of emphasis on soft skills, essential for effective collaboration on complex problems. This study used a qualitative document analysis approach, examining current and past postgraduate cybersecurity program curricula from Australian university handbooks. Postgraduate education plays a vital role in professional development, offering pathways to advanced capabilities and specialized knowledge. Our analysis reviewed 41 programs across 27 Australian universities, with the findings consolidated into a map of commonly offered courses and core technical and soft skills contained within them. Our findings show that most programs lack opportunities for industry-based projects, a critical component for easing students' transition into the workforce. Additionally, some programs do not offer elective courses, limiting students' ability to address specific skill gaps in their learning. These shortcomings highlight the need for curricula that better integrate industry engagement and provide more flexible learning pathways.

Keywords : cybersecurity, postgraduate, education, Australia

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