

Career opportunities and essential skills for CSE graduates in a changing tech landscape

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Abstract

Example abstract for the Physics Open journal. Here you provide a brief summary of the research and the results.

Keywords: keyword 1, keyword 2, keyword 3, keyword 4

1. Introduction

1.1. Background

Industries have evolved because of rapid technological advances, which has created demand for skilled CSE professionals. Because technologies like cloud computing, big data analytics, artificial intelligence, and the Internet of Things today support daily living and manufacturing processes, modern technological skills is necessary. Industry 4.0 and the digital economy are compelling higher education institutions to revise their academic programs to equip graduates with the competencies needed in evolving workplaces (1). In addition to fundamental programming skills, data analytics, machine learning, and cybersecurity competencies are now essential for CSE professions. New graduates need to continue learning to remain relevant due to the fact that technology is changing so rapidly (2). In addition to technical skills, employers also highly regard soft skills such as teamwork, communication, problem-solving, and adaptability. These skills are presently viewed as key drivers of career success on par with the level of sector-specific knowledge for most employers (3). Even amid strong demand in fields such as Bangladesh's IT sector, where job placement for CSE graduates reaches as much as 77 percent, a gap in skills between education by schools and industry remains. Most graduates do not possess up-to-date, industry-relevant skills or in-job experience that restricts their own likelihood of direct employability without additional training (4). New global career paths are being opened to individuals who acquire proficiency in emerging fields such as data science and artificial intelligence. As CSE graduates drive innovation and digital transformation in every sector of the global economy, it is crucial to solve these problems (5).

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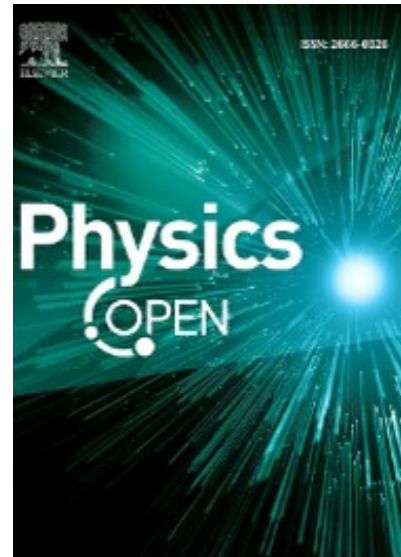


Figure 1: Physics Open journal cover

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2.1. Subsection title

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4. Discussion

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5. Summary and conclusions

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Acknowledgements

Thanks to ...

Appendix A. Appendix title 1

Appendix B. Appendix title 2

References

- [1] R. K. Misra and K. Khurana, “Employability skills among information technology professionals: A literature review,” *Procedia Computer Science*, vol. 122, pp. 63–70, 2017.
- [2] D. De Silva, H. Huijser, S. Cunningham, and N. Press, “Essential professional skills and competencies for future information technology graduates meeting it industry demands,” in *2024 International Conference on Engineering Management of Communication and Technology (EM-CTECH)*. IEEE, 2024.
- [3] F. S. Mohammed and F. Ozdamli, “A systematic literature review of soft skills in information technology education,” *Behavioral Sciences*, vol. 14, no. 10, p. 894, 2024.

- [4] D. Chakraborty, M. S. Hossain, and M. S. Arefin, "Demand analysis of cse graduates of different universities in job markets," in *Proceedings of the 2019 International Conference on Electrical, Computer and Communication Engineering (ECCE)*. IEEE, February 2019.
- [5] K. H. Prince, S. B. Idris, T. A. Kawser, and M. S. Z. Alif, "Prospects of computer science graduates a comprehensive review of career opportunity and challenges," *Procedia Computer Science*, February 2025, article PDF available on ResearchGate.