

# Chapter 11

## Ethical Standards in the Use of AI for Computer Science Students

Hanh Le

 <http://orcid.org/0009-0007-8172-0809>

University of the Cumberlands, USA

### ABSTRACT

*The rapid integration of artificial intelligence (AI) into education and professional practice has brought about transformative opportunities and pressing ethical challenges. This chapter examines the principles, guidelines, and responsibilities that students must understand and maintain when engaging with AI technologies. This book explores key topics such as academic integrity, data privacy, algorithmic bias, intellectual property, and the responsible use of generative AI tools like ChatGPT and GitHub Copilot. Through real-world case studies, theoretical frameworks, and practical scenarios, the chapter fosters critical thinking and ethical reasoning among computer science students. It also provides educators with strategies for promoting ethical awareness and decision-making in AI-assisted learning environments. By grounding technical education in strong ethical foundations, this book aims to prepare future programmers and engineers to contribute to a trustworthy and socially responsible AI landscape.*

### INTRODUCTION

Artificial Intelligence (AI) is rapidly transforming the field of computer science, shaping how students learn, how software is developed, and how technology impacts society at large. With coding assistants, AI has become a central component of how

DOI: 10.4018/979-8-2600-0439-5.ch011

Copyright © 2026, IGI Global Scientific Publishing. Copying or distributing in print or electronic forms without written permission of IGI Global Scientific Publishing is prohibited. Use of this chapter to train generative artificial intelligence (AI) technologies is expressly prohibited. The publisher reserves all rights to license its use for generative AI training and machine learning model development.

computer science students learn and prepare for their careers. As these technologies become more accessible and powerful, students must not only acquire technical skills but also develop a strong understanding of the ethical responsibilities that come with their use.

The rise of generative AI tools such as ChatGPT and GitHub Copilot with code completion capabilities has introduced new opportunities for learning, collaboration, and productivity. However, it has also raised significant ethical questions about academic honesty, authorship, data privacy, fairness, and accountability. Without clear guidance and critical awareness, students may unintentionally misuse AI tools, negatively affect their learning outcomes, or participate in practices that conflict with professional and academic standards.

This chapter uses deskilling theory (Braverman, 1974) as a theoretical perspective to examine how excessive dependencies on AI may take away students' basic skills and reduce the ownership of their work. Deskilling theory highlights how automation can shift responsibility away from the human operator to an automated system. Applying this perspective, the chapter explores the tension between efficiency and deep learning, raising important ethical and educational questions about the long-term consequences of AI-assisted education. The chapter also introduces fairness, transparency, responsibility, and respect for human dignity. Each section is designed to help students reflect on real-world dilemmas, evaluate their decisions, and act with integrity in an increasingly AI-driven environment.

By blending theoretical insights, case studies, and practical strategies, the chapter encourages computer students to think beyond coding to consider the societal impact of their work. Whether in the classroom, lab, or industry, ethical competence is no longer optional; it is essential for building trustworthy systems with the assistance of AI and shaping a digital future.

This chapter examines how programmers navigate the ethical and practical challenges involved in designing AI chatbots, with a focus on two core issues: maintaining academic integrity and addressing the risk of deskilling. It looks at three main areas: how developers approach user experience in chatbot design, how they respond to user feedback and interactions, and how they envision the future relationship between humans and AI as technology advances. The chapter connects these themes in a broader conversation about building ethical, user-centered AI tools that respect both human values and evolving technological capabilities.

To help guide you through this complex topic, the chapter is organized into several clear sections. First, we explore the background and theoretical frameworks that set the foundation for understanding the ethical and technical challenges of AI chatbot development. Next, the primary focus of the chapter is laid out to clarify the key questions and themes driving this discussion. Following that, the literature review examines existing research and highlights where this study contributes new insights.

30 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: [www.igi-global.com/chapter/ethical-standards-in-the-use-of-ai-for-computer-science-students/405154](http://www.igi-global.com/chapter/ethical-standards-in-the-use-of-ai-for-computer-science-students/405154)

## Related Content

---

### Covering Rough Clustering Approach for Unstructured Activity Analysis

Prabhavathy Panneerand B.K. Tripathy (2016). *International Journal of Intelligent Information Technologies* (pp. 1-11).

[www.irma-international.org/article/covering-rough-clustering-approach-for-unstructured-activity-analysis/152302](http://www.irma-international.org/article/covering-rough-clustering-approach-for-unstructured-activity-analysis/152302)

### Infrequent Pattern Identification in SCADA Systems Using Unsupervised Learning

Mohiuddin Ahmed (2017). *Security Solutions and Applied Cryptography in Smart Grid Communications* (pp. 215-225).

[www.irma-international.org/chapter/infrequent-pattern-identification-in-scada-systems-using-unsupervised-learning/172680](http://www.irma-international.org/chapter/infrequent-pattern-identification-in-scada-systems-using-unsupervised-learning/172680)

### A Study on the Influence of Social Media on Consumer Behaviour

Priyanka Vemburajand S. Santhanalakshmi (2025). *Ethical AI Solutions for Addressing Social Media Influence and Hate Speech* (pp. 119-130).

[www.irma-international.org/chapter/a-study-on-the-influence-of-social-media-on-consumer-behaviour/371735](http://www.irma-international.org/chapter/a-study-on-the-influence-of-social-media-on-consumer-behaviour/371735)

### Defining Smart Community in the Context of Healthcare Efficiency in the UK: Mapping the Evolution of a Concept

Tim Woolliscroft (2020). *International Journal of Intelligent Information Technologies* (pp. 1-18).

[www.irma-international.org/article/defining-smart-community-in-the-context-of-healthcare-efficiency-in-the-uk/262976](http://www.irma-international.org/article/defining-smart-community-in-the-context-of-healthcare-efficiency-in-the-uk/262976)

### Smart Content Selection for Public Displays in Ambient Intelligence Environments

Fernando Reinaldo Ribeiroand Rui José (2013). *International Journal of Ambient Computing and Intelligence* (pp. 35-55).

[www.irma-international.org/article/smart-content-selection-public-displays/77832](http://www.irma-international.org/article/smart-content-selection-public-displays/77832)