


# Chapter 3

## AI-Based Online Harassment and Cyber Bullying Prevention System

**Anita Chaudhary**

 <https://orcid.org/0009-0002-5815-5331>

*Akal College of Engineering and Technology, India*

**Shivani**

*Akal College of Economics, Commerce, and Management, India*

### **ABSTRACT**

*Online harassment and cyber bullying have become serious social issues with wide-ranging repercussions in an age where the internet plays a significant role in our everyday lives. This chapter of the book examines the creation and application of AI-based systems for stopping online bullying and harassment as cutting-edge solutions to this expanding issue. The chapter starts out by looking at how ubiquitous online harassment is and the significant effects it has on both individuals and communities. It explores the difficulties of preventing such behaviours in the digital sphere and draws attention to the shortcomings of conventional moderation techniques. The chapter then delves deeply into the role that AI-based solutions play in content analysis, user profiling, real-time monitoring, and alert production. Additionally, it addresses the crucial issues of ethics and privacy, highlighting the necessity of responsible AI research and data protection.*

### **INTRODUCTION**

The advent of the digital age has brought with it unprecedented opportunities for communication, connection, and collaboration. However, it has also given rise to a more sinister facet of the internet world: cyber bullying and online abuse. These pervasive problems have wide-ranging effects on people, communities, and societies as a whole. Dealing with the problems caused by online harassment has emerged as a top priority as our lives become more and more entwined with the digital world. Online bullying

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and harassment take many different forms, frequently focusing on weak people or minority groups, and include abusive comments, hate speech, threats, and the spreading of false information. These behaviours not only flout the norms of civil online discourse but also seriously harm the mental and emotional health of individuals who are subjected to them. Additionally, they compromise the entire foundation of the internet as a forum for free speech and idea exchange. Despite their value, traditional techniques of content monitoring and reporting procedures have been unable to keep up with the online harassment industry's rapid development. The use of artificial intelligence (AI) in the battle against online harassment and cyber bullying has emerged as a promising option, recognising the seriousness of the issue. AI has the ability to completely change how we identify, stop, and stop these dangerous online behaviours.

The panorama of AI-based methods for stopping online bullying and harassment is examined in this chapter. It explores the intricacy of these digital scourges, looks at the shortcomings of current solutions, and offers a thorough review of how AI is being used to effectively battle them. We will explore the complex world of online harassment through the lenses of technological innovation, ethical issues, and real-world case studies in order to better understand how AI can support our continuous fight for a safer, more civilised online environment.

## **LITERATURE SURVEY**

The paper examines the existing gaps in the field of cyberbullying detection, concentrating on three key areas: data scarcity, reproducibility, and evaluation criteria. They probably talk about the difficulties in replicating research findings in this field, the difficulties in evaluating the efficacy of cyberbullying detection techniques, and the lack of appropriate data for training and testing detection models (Emmery et al., 2021). In order to detect cyberbullying, the article investigates the usage of a complex neural network architecture that combines deep CNNs, dynamic routing, and capsule networks (Kumar & Sachdeva, 2021). This article focuses on the internet threats that youngsters between the ages of 10 and 18 encountered during the COVID-19 lockdown in the spring of 2020. The study's major findings address a number of issues, including the kinds of online hazards that kids experience, how lockdowns affect kids' online activity, and what steps families have taken to lessen those risks. It also examines how, in a period when in-person interactions were restricted, digital technologies supported social interactions and education (Lobe et al., 2021). This study looks at a variety of social elements in order to investigate how people participate in cyberbullying. It also examines how rules in cyberspace, ingroup dynamics, and perceived peer standards affect the probability of someone turning into a cyberbully (Piccoli et al., 2020). The quality and properties of training data used to create models for identifying abusive language are examined by the authors in this research paper. The systematic review focuses on data related to abusive language training. It looks into the origins, caliber, and biases of datasets that are used to train models that identify toxic or abusive language on the internet (Vidgen & Derczynski, 2020).

Incorporating user engagement into cyberbullying detection is the main goal of the study. The authors investigate how user interaction or feedback can raise the efficacy or accuracy of techniques for detecting Cyberbullying (Lutkevich et al., 2021). The study investigates how people react as spectators to bullying incidents at work. The authors examine how bystanders react to bullying at work, taking into account several aspects like the type and manner of bullying as well as the relationship between the target and the bystander (Coyne et al., 2019). The essay investigates the connection between the frequency or intensity of traditional and cyberbullying and adolescent suicide. The study most likely looks into

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