MALLA REDDY COLLEGE
OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS INSTITUTION - UGC, GOVT. OF INDIA)
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# DEPARTMENT OF COMPUTATIONAL INTELLIGENCE

## III YEAR CSE - AIML II SEM

**COURSE: APPLICATION DEVELOPMENT - 2** **COURSE CODE: R22A66933**

# Ad Blocker using Convolutional Neural Network

## ABSTRACT:

Online advertisements often interrupt user experiences and pose privacy concerns. This project introduces an AI-based Ad Blocker that detects and blocks ads such as banners, pop-ups, and video ads using machine learning algorithms. The system leverages supervised learning techniques and combines computer vision to analyze web pages and identify ad components . The ad blocker uses Convolutional Neural Networks (CNNs) for detecting visual elements like banner and video ads from webpage images. For textual and structural ad detection, it employs Transformers\ to analyze HTML tags, CSS classes, and other textual patterns commonly associated with advertisements. The model is trained on a multimodal dataset containing labeled text, HTML structures, and images of webpages to ensure accurate ad recognition. Integrated as a browser extension, the system dynamically scans webpage content and blocks identified ads before they load. The model is optimized for real-time performance using lightweight frameworks such as TensorFlow Lite. Regular updates ensure the system adapts to new and evolving ad formats. By combining CNNs for visual detection and Transformers for text analysis, this solution enhances the accuracy of ad blocking and provides users with a safe, fast, and uninterrupted browsing experience.

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