

# **Real-Time Face Detection App Using TensorFlow.js and React.js**

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**Abstract:** *Real-time face detection has gained immense relevance in areas such as surveillance, authentication, and user experience personalization. This research presents a web-based face detection application built using TensorFlow.js and React.js. Leveraging deep learning models such as BlazeFace and MediaPipe, the system detects faces directly through a browser without backend dependencies. The architecture supports real-time video processing, cross-device compatibility, and responsiveness, making it ideal for scalable, lightweight deployment. The study includes implementation methodology, system workflow, model training references, performance evaluation, challenges, and future prospects.*

**Keywords:** face detection

