

## ABSTRACT

*Authentication technology is one of the most developed technologies today. Previously the authentication method still used a Personal Identification Number (PIN) or a password which was very vulnerable to being stolen or imitated by others. These methods are starting to be replaced by biometric-based authentication systems that utilize human limbs in the authentication process, such as fingerprints, irises, and human faces. Several advantages face recognition has when compared to other biometric authentication methods. Some advantages include no need for physical contact when collecting facial data for both registrations and matching, being easy to use, and being accessible when an additional manual evaluation process is needed because the data used is facial image data. At this time, voter verification in general elections still uses the manual method. This requires considerable human resources, especially when verification is carried out one by one. In addition, with this manual voter verification system, there are loopholes for fraud due to the absence of concrete evidence that the voter has voted at the polling station (TPS). To prevent this from happening, in this study, the authors will propose an authentication architecture based on face recognition which is expected to help increase the speed of the voter verification process and reduce the possibility of fraud. The development of this authentication system uses the SDLC prototype method to produce an authentication system that has good performance and follows the case study.*

**Keywords:** *Biometric-based authentication, face recognition, SDLC Prototype, general election*