IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 3, May 2025
Impact Factor: 7.67

Signature Matching using PY-TKINTER and Cloud Concepts

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Abstract: *This paper presents the development and deployment of a specialized signature matching system, designed entirely on a responsive web platform supported by a secure, cloud-based backend. The proposed solution addresses the growing demand for automated signature verification across multiple fields, delivering a streamlined, efficient, and precise authentication experience. Key features of the system include intuitive signature upload, real-time comparison algorithms, and robust data protection capabilities. The backend architecture, hosted with a single cloud provider, guarantees high availability, horizontal scalability, and dependable data storage. Essential architectural elements, such as load balancing, automated backups, and disaster recovery mechanisms, are incorporated to enhance system stability. Ensuring data security is a primary focus, employing advanced encryption methods, secure user authentication, and compliance with established data protection regulations. Additionally, the paper covers legal and regulatory aspects, including adherence to data privacy standards and authentication protocols. It also suggests performance optimization techniques and explores potential future advancements. The platform is designed to fulfill the specific requirements of organizations needing signature verification while providing a scalable framework for future digital evolution.*

Keywords: Signature matching system, Cloud computing, Authentication platform, Web application, Data security, User verification, Regulatory compliance

DOI: 10.48175/IJARSCT-26352