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Lumina Fusion: Morse Code Detection and Translation System

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Abstract: *Morse code remains one of the most reliable communication techniques in situations where standard communication systems lose functionality during emergency signaling and aviation and maritime operations and assistive communication technologies. The project called Lumina Fusion Morse Code Detection and Translation System provides users with an interactive web-based solution which enables them to learn and translate and detect Morse code through light signals.*
The system supports bidirectional translation which allows users to convert text into Morse code and back to text while they can use browser-based audio synthesis to listen to audio content. The interactive learning module provides users with a complete Morse alphabet and number chart which includes character-wise audio feedback and a practice quiz that tracks their progress. The frontend uses HTML and CSS and JavaScript to create user interfaces which follow modern design principles that include glassmorphism and responsive layouts and accessibility features. The backend uses Django to implement structured data management which enables the system to grow through additional features that support camera-based Morse code detection capabilities.
The project provides users with an accessible educational experience which enables them to learn Morse code through engaging methods that build their skills. The system provides a modular architecture which enables developers to add real-time light signal detection through camera input, which makes Lumina Fusion a complete platform for Morse code translation and learning..

Keywords*: Morse code*

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