

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**“Jnana Sangama” Belagavi – 590018**



***Mini Project Report on***

**“Design of Data Transmission Through Li-Fi Technology”**

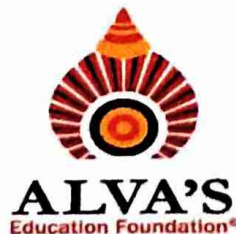
*Submitted in partial fulfillment of the requirements for the award of degree*

**BACHELOR OF ENGINEERING  
IN  
ELECTRONICS & COMMUNICATION ENGINEERING**

**Submitted By**

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**Under the Guidance of  
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**DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**

**ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY**

**Accredited by NBA & NAAC with A+ Grade**

**MOODBIDRI – 574 225.**

**2023-2024**

# ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

(A Unit of Alva's Education Foundation®, Moodbidri)

"Shobhavana", Mijar, Moodbidri - 574 225, D.K.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

## CERTIFICATE

This is to certify that the following students,

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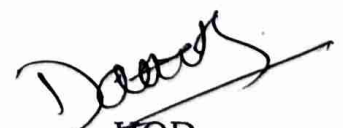
has submitted Project synopsis on "Design of Data Transmission Through Li-Fi Technology" for VI Semester B.E. in Electronics & Communication Engineering during the academic year 2023-24. The mini project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

  
Mini Project Guide

**Mr. K V Siddamal**

  
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## ABSTRACT

This paper provides a detailed review of a Li-Fi technology-based data transmission system incorporating Arduino Uno and Arduino Nano microcontrollers, a 16x2 LCD with I2C interface, a solar panel, an LM386 audio amplifier, a speaker, a 4x4 matrix keypad, and a 5mm audio jack. By utilizing visible light for data transmission, the system offers high bandwidth, enhanced security, and minimal interference. The Arduino microcontrollers manage data processing and control, while the LCD and keypad offer user-friendly interaction. The solar panel contributes to the system's portability and environmental sustainability. This review discusses the system's design, including transmitter and receiver configurations, power management, and communication protocols. Potential applications are explored, ranging from portable communication devices to interactive educational tools. The challenges of maintaining line-of-sight and mitigating ambient light interference are addressed. Prospects for the system include advancements in LED and photodetector technology, highlighting the promising future of Li-Fi in various communication scenarios.