

# BandOptimizer: AI Web App for Bandwidth Optimization

Optimizing Bandwidth for Schools and Hospitals

GenAI - Innovators



# Meet the Team



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# The Challenge: Bandwidth in Schools & Hospitals



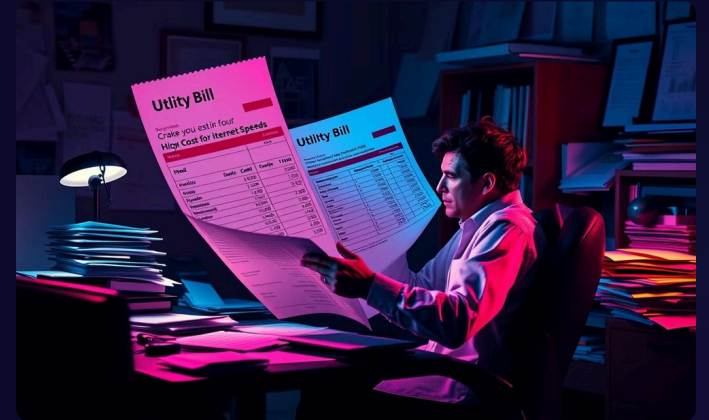
## Unpredictable Usage

High peaks and low valleys



## Over-Allocation

Paying for bandwidth that's not used



## High Operational Costs

Budget strain from inefficient network

# Introducing BandOptimizer

## AI-Driven

Predicts and categorizes  
bandwidth usage

## Web-Based App

Intuitive and user-friendly  
interface

## Cost-Effective

Optimizes network performance and saves money



# How BandOptimizer Works

1

Upload Data

CSV format with network usage details

2

AI Predictive Analysis

Processed by Hugging face Model for predictions

3

Actionable Insights

Categorized predictions for optimal bandwidth usage





# Key Features and Benefits

1

## AI/ML Accuracy

Reliable and precise  
bandwidth predictions

2

## Streamlit Interface

Easy to use and navigate for  
all users

3

## Data Security

Securely managed API keys  
for user data

4

## Preloaded Data

Test and explore functionality  
without setup

# Technology Stack



Python

Programming Language



Streamlit

Web App Deployment



Pandas

Data Analysis



Matplotlib

Data Visualization



# Let's See It in Action

1

Upload CSV Data

Use provided test files from repository

2

View AI Predictions

Categorized bandwidth usage results

3

Analyze and Optimize

Identify trends and make informed decisions



# Future Enhancements



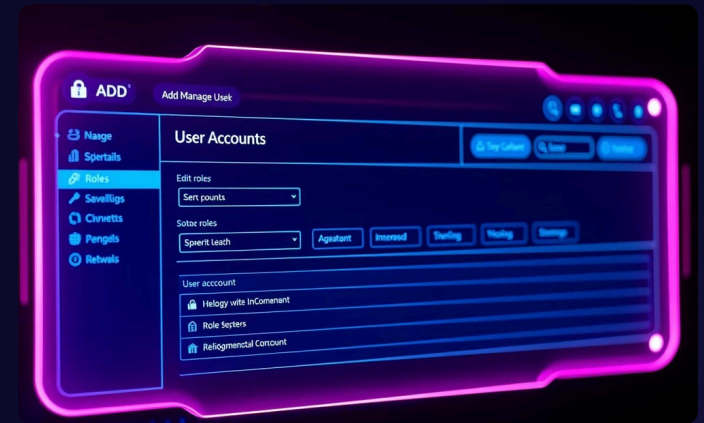
## Real-Time Monitoring

Live bandwidth tracking for proactive management



## Advanced Visualization

Enhanced graphs and insights for better understanding



## User Management

Multi-user support with roles and permissions



# Conclusion

**BandOptimizer** simplifies bandwidth management for schools and hospitals, empowering administrators with AI-driven insights. Let's work together to build a more efficient and cost-effective network future.