PRESIDENCY UNIVERSITY
Private University Estd. in Karnataka State by Act No. 41 of 2013
Itgalpura, Rajankunte, Yelahanka, Bengaluru – 560064

NETWORK TRAFFIC SNIFFER AND ANALYZER.

A PROJECT REPORT

Submitted by

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Under the guidance of,

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BACHELOR OF TECHNOLOGY

IN

INFORMATION SCIENCE AND TECHNOLOGY

PRESIDENCY UNIVERSITY

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PRESIDENCY SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

BONAFIDE CERTIFICATE

Certified that this report "Network Traffic Sniffer And Analyzer" is a bonafide work of AISHWARYALAKSHMI D (20221IST0075), TASMIYA (20221IST0054),Y VARSHANTH (20221IST0052), who have successfully carried out the project work and submitted the report for partial fulfilment of the requirements for the award of the degree of BACHELOR OF TECHNOLOGY in INFORMATION SCIENCE AND TECHNOLOGY during 2025-26.

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DECLARATION

We the students of final year B.Tech in INFORMATION SCIENCE AND TECHNOLOGY at Presidency University, Bengaluru, named AishwaryaLakshmi D, Tasmiya, Y Varshanth, hereby declare that the project work titled "Network Traffic Sniffer and Analyzer" has been independently carried out by us and submitted in partial fulfillment for the award of the degree of B.Tech in INFORMATION SCIENCE AND TECHNOLOGY during the academic year of 2025-26. Further, the matter embodied in the project has not been submitted previously by anybody for the award of any Degree or Diploma to any other institution.

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Abstract

As every organization today thrives on digital communication, the way data moves across a network needs to be monitored. In this project, the development of a Network Traffic Sniffer and Analyzer for capturing, observing, and interpreting packets in real time while they travel through a network is discussed. Thus, there is a goal to develop a tool that can collect not just raw traffic but translate it into meaningful insights of protocol distribution, patterns of suspicious activities, bandwidth utilization, and active flows among interacting devices.

The system utilizes packet-capturing mechanisms to intercept network frames and then processes them through multiple analysis modules. These modules help in identifying common protocols, detecting anomalies, and visualizing the traffic behaviour in an understandable format. By offering a simplified view of what happens behind the scenes on a network, the tool supports administrators in troubleshooting, performance monitoring, and basic security assessments.

Overall, this project demonstrates how low-level packet inspection can be combined with other analytical techniques to give a better view of network health. The prototype developed here acts as an accessible and practical solution for students, small labs, or organizations looking to gain better visibility into their network activity without reliance upon expensive commercial tools.