

**University of Mumbai**

# **Computer Network Automation Using Python**

Submitted in partial fulfillment of requirements

For the degree of

**Bachelor of Technology**

by

**Dhruti Sangal**

**Roll No: 1913076**

**Krishna Kumar Pal**

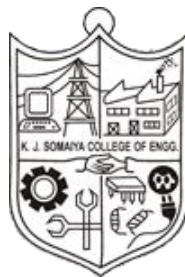
**Roll No: 1913097**

**Vrunda Patel**

**Roll No: 1913101**

Guide

**Mrs. Jyoti Varavadekar**



**Department of Electronics and Telecommunication Engineering**

**K. J. Somaiya College of Engineering, Mumbai-77**

**(Autonomous College Affiliated to the University of Mumbai)**

**Batch 2019 -2023**

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This is to certify that the dissertation report entitled **Computer Network Automation Using Python** is a bonafide record of the dissertation work done by Dhruti Sangal, Krishna Kumar Pal, and Vrunda Patel in the year 2022-23 under the guidance of Mrs. Jyoti Varavadekar of the Department of Electronics and Telecommunication Engineering in partial fulfillment of the requirement for the Bachelor of Technology degree in Electronics and Telecommunication Engineering of University of Mumbai.

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*Dedicated to*  
*My family and friends*

## **ABSTRACT**

The trend known as "network programmability" uses traditional programming languages and scripting approaches to manage and monitor various network components. Software Defined Networks (SDN) have improved it and served as an inspiration. In order to speed up equipment configuration and make maintenance simpler, we have presented some novel techniques for automating the configuration of network devices. Identifying and addressing security flaws also strengthens network stability and enhances network security. These approaches, which enable the unitary control of an expanding number of devices, are what networks will look like in the future.

The software's Graphical User Interface (GUI) allows users to conduct both fundamental network automation activities, such as router and switch configuration. The numerous options that the user must connect to and configure network devices using Python and its libraries are demonstrated and discussed in the application's code.

**Keywords:** Network automation, software-defined networks, computer network operations, network management, python scripting.

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