SICNAP 2025 Internship Report

Rahul Adhikari

June 14, 2025

1 Introduction

This is a brief report of the tasks completed during the Summer Internship in Computational Nuclear Astrophysics (SICNAP) 2025.

2 Part A: Bash and Linux

Completed all shell tasks including script creation and file editing with Vim. Below are the key actions performed:

- Created directories and managed files with mkdir, 1s, and rm
- Used commands like grep, chmod, alias, date, and tar
- Wrote and executed .sh scripts to automate tasks

3 Part B: Python Programming

Practiced data types, control flow, functions, and file handling using Python.

4 Part C: Git and GitHub

Worked with branches, pushed to remote repositories, used stash and branch protection.

5 Part D: LaTeX

This report itself is created using LaTeX. It includes text formatting, equations, tables, and images.

See Table 1 for a summary of tools used during the internship. Figure 1 shows the tools used in this internship.

Table 1: Comparison of Tools Used in SICNAP

Tool	Use Case	Environment
Bash	File handling, scripting	Git Bash
Python	Programming logic	VS Code
Git	Version control	GitHub
LaTeX	Report writing	Overleaf/VS Code

sicnap.png

Figure 1: Overview of Tools in SICNAP

Mathematical Equations

This equation uses the equation environment:

$$E = mc^2 (1)$$

As shown in Equation 1, energy is proportional to mass. This pair of equations uses the align environment:

$$a^2 + b^2 = c^2 \tag{2}$$

$$a^{2} + b^{2} = c^{2}$$

$$x = \frac{-b \pm \sqrt{b^{2} - 4ac}}{2a}$$
(2)

See Equation 3 for more examples.