N-Body Simulation

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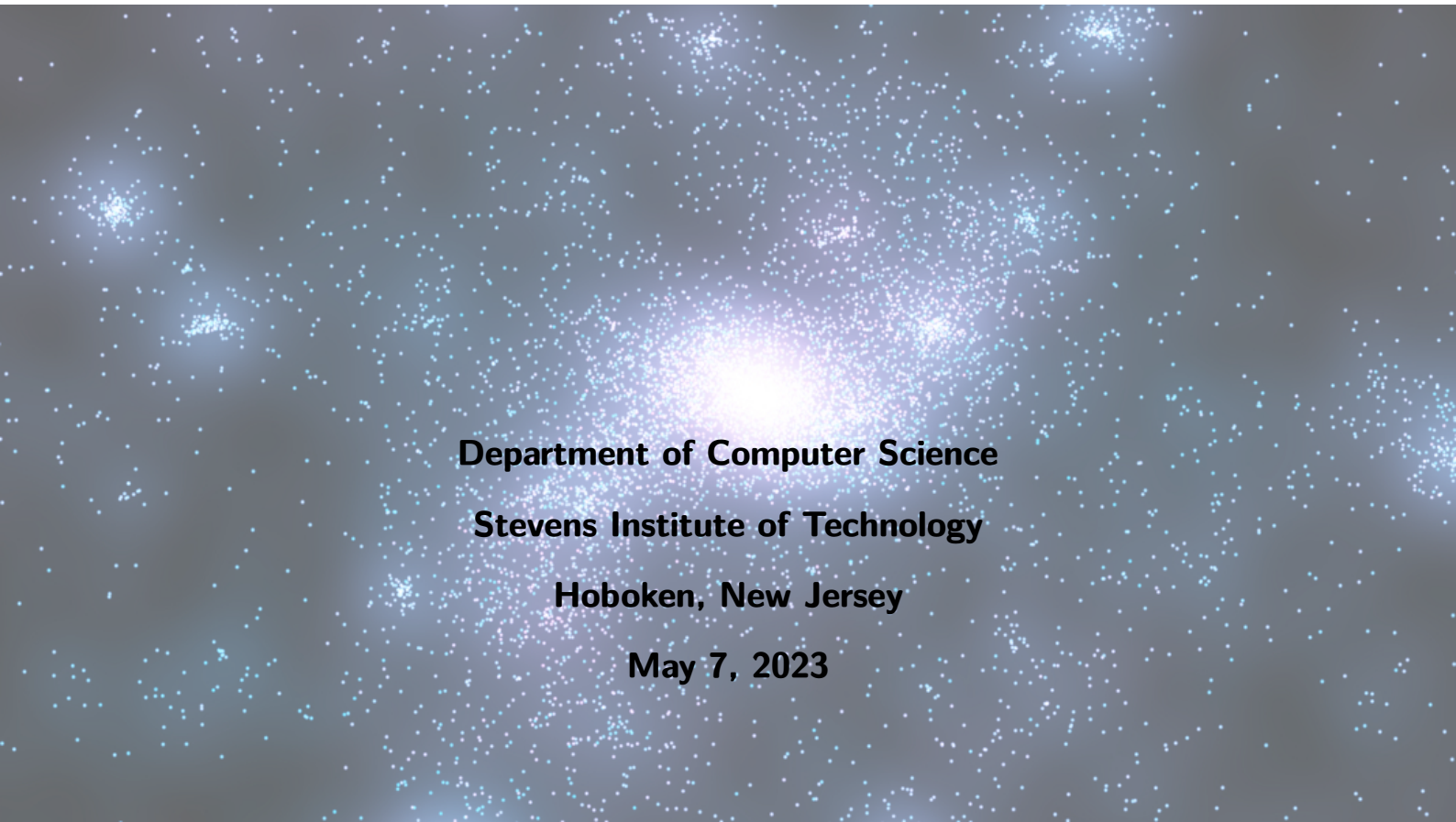
CS677: Final Project Report

Professor Mordohai



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Contents

1 | Introduction

Write a brief introduction. Explain what this experiment is for and why researchers use it.

2 | Objectives

Write your experiment objectives here. You can use bulleted points if you like.

- Objective 1
- Objective 2

3 | Equipment Required

Write the pieces of equipment required for the experiment. Equipment 1, Equipment 2, Equipment 3, and Equipment 4.

4 | Methodology

Write down the step-by-step methodology. You can add a bulleted list or flowchart (Figure 4.1).

- Item 1
- Item 2
  - subitem 1
    - subsubitem 1
    - subsubitem 2
- Item 3

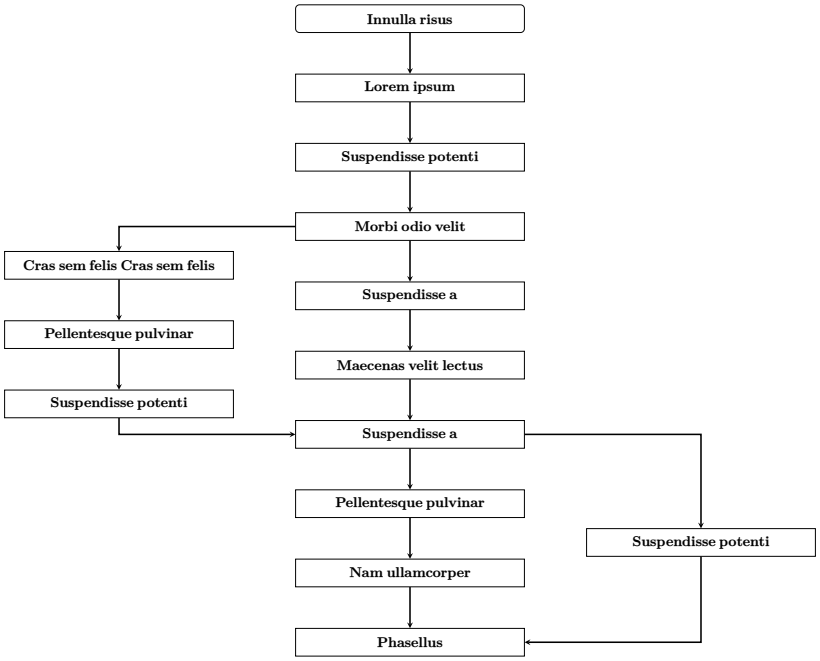


Figure 4.1: Methodology.

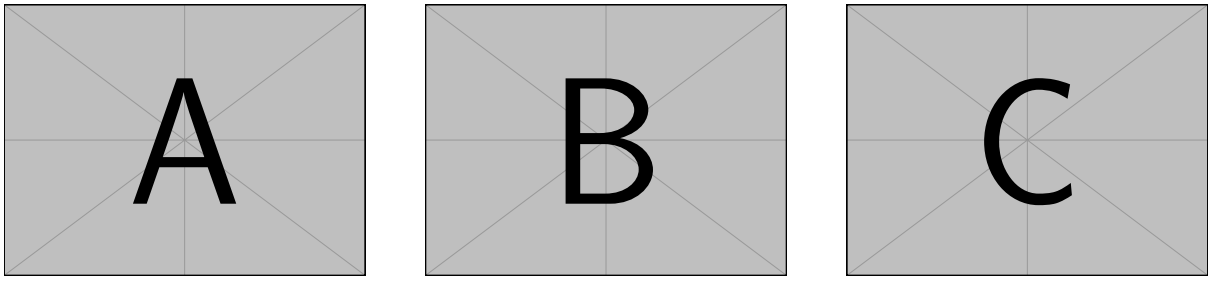
5 | Procedure

In this section, you need to explain how you conducted the experiment. This could be done with figures (example Figure 5.1) or observation tables (example Table 5.1). The figure and table number follows the following format `<section number>.<figure number>`.

You can also add citations of past work or experiments conducted by scientists [1].

Table 5.1: A table without vertical lines.

Column 1	Column 2	Column 3	Column 4	Column 5
Entry 1	1	2	3	4
Entry 2	1	2	3	4
Entry 3	1	2	3	4
Entry 4	1	2	3	4



(a) image a (b) image b (c) image c

Figure 5.1: Three images

6 | Calculations and Analysis

This section explains the data analysis or exploratory analysis as per the experimental procedure.

6.1 | Sub Section Heading

This is a subsection under the main section.

1. Item 1
2. Item 2
    [a] subitem 1
        i. subsubitem 1
        ii. subsubitem 2
3. Item 3

6.2 | Sub Section Heading

This is another subsection under the section.

Here few equation styles that you can use.

One-line Equation (6.1).

$$e = \lim_{n \to \infty} \left(1 + \frac{1}{n}\right)^n \tag{6.1}$$

Aligned Equation (6.2).

$$\begin{aligned} x^2 - 25 &= 0 \\ x^2 &= 25 \\ \therefore \boxed{x = 5} \end{aligned} \tag{6.2}$$

Multi-line Equation (6.3).

$$\begin{aligned} f(x) = 4xy^2 + 3x^3 - 2xy + 25x^3y^3 + 3xy - 4x^6y^6 + 3xy^2 - 2y^3 \\ + a^3b^3c^4 + 3x^3 - 2xy + 25x^3y^3 + 3xy \\ - 4x^6y^6 + 3xy^2 - 2y^3 + a^3b^3c^4 \end{aligned} \tag{6.3}$$

7 | Results

Here explain the results obtained from the experimental analysis.

Use table (Table 7.1) or figure (Figure 7.1 - Figure 7.3) to explain the results.

Table 7.1: A table without vertical lines.

Column 1	Column 2	Column 3	Column 4	Column 5
Entry 1	1	2	3	4
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Entry 3	1	2	3	4
Entry 4	1	2	3	4

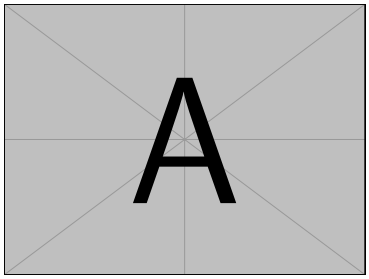

Figure 7.1: image a

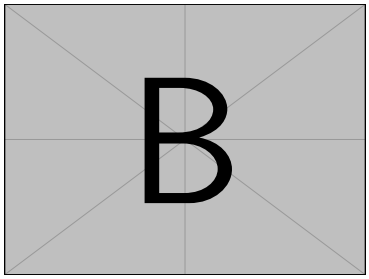

Figure 7.2: image b

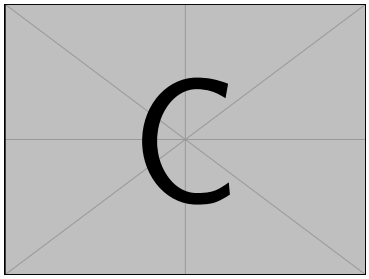

Figure 7.3: image c

8 | Discussion

Discuss the outcomes here. What surprising finding you have made, and why it is surprising?

9 | Limitations

Here you can describe the experiment's limitations. You can list them point-wise.

1. Item 1
2. Item 2
    [a] subitem 1
    [b] subsubitem 1
    [c] sub subitem 2
3. Item 3

10 | References

[1] Stefan Kottwitz. *LaTeX beginner's guide*. Packt Publishing Ltd, 2011.

A | Appendix A title

Add additional experimental contents here, like images, tables and equations that supports the experimental outcome.