UNIVERSIDADE ESTADUAL DE CAMPINAS

Faculdade de Engenharia Civil, Arquitetura e Urbanismo

IC639: Métodos Numéricos para Engenharia Civil

List 3

Matrix Decompostion

Student:

Carlos Henrique Chama Puga - 195416

Advisors:

Porf. Dr. Philippe Devloo

Dr. Giovane Avancini

Campinas

2024

Contents

1   Introduction

dkndn

2   The Full Matrix Class

2.1   Class Implementation

2.2   Matrix LU Decomposition

2.3   Matrix LDLt Decomposition

3   The Sparse Matrix Class

3.1   Class Implementation

3.2   Storage Structure and Memory Usage

3.3   Product Matrix Vector

4   Conclusions

References

A   GitHub Repository

The source code for this report and every code inhere mentioned can be found in the following GitHub repository: CarlosPuga14/MetodosNumericos_-2024S1.