# **C++ Learning Journey on GitHub 🚀**

Welcome to my C++ Learning Repository! This repository serves as a documentation of my progress as I explore the depths of C++ programming, covering everything from the basics to advanced topics. 🖥️

## **🏁 Getting Started**

This repository contains:

* Simple Programs: Basic syntax and fundamental concepts.
* String Manipulation: Exploring C++ string operations.
* Pointers and Memory Management: Concepts like dynamic memory allocation and deallocation.
* Exception Handling: Using try, catch, and throw statements.
* Template Functions: Generic programming for type-independent code.
* Structures and Classes: Basics of Object-Oriented Programming.
* Advanced Projects: Practical applications like Bus Reservation System.

## **📚 Topics Covered**

1. Basics of C++
   * Variables, Data Types, and Operators
   * Conditional Statements and Loops
2. Functions and Recursion
   * Function Definitions
   * Recursive Solutions (e.g., Fibonacci sequence)
3. Pointers and References
   * Basics of Pointers
   * Pointer Arithmetic
   * Swapping Variables using Pointers
4. Object-Oriented Programming
   * Classes and Objects
   * Access Modifiers
   * Constructors and Destructors
5. Templates and Exception Handling
   * Template Functions
   * Error Handling with Try-Catch Blocks
6. Data Structures
   * Arrays
   * Stacks and Queues
   * Linked Lists
7. Projects
   * Bus Reservation System

## **🛠 Tools and Technologies**

* IDE: Visual Studio Code, Code::Blocks
* Compiler: GCC (g++), MSVC

## **💡 Motivation**

This journey is part of my commitment to mastering C++ as a foundation for systems programming, competitive programming, and real-world software development.

## **🤝 Contributions**

I welcome suggestions, feedback, and collaboration! Feel free to fork the repository, raise issues, or submit pull requests. Let’s learn together!

## **📞 Connect with Me**

* LinkedIn: [Mohan Veera Manikanta Kalepu](https://www.linkedin.com/in/mohanveeramanikantakalepu)
* GitHub: [My GitHub Profile](https://github.com/username) *(*[*https://github.com/mohanveeramanikantak*](https://github.com/mohanveeramanikantak)*))*
* Portfolio: [My Portfolio](https://github.com/mohanveeramanikantak/cpp#) *(*[*https://mohanveeramanikantak.github.io/Portfolio.io/*](https://mohanveeramanikantak.github.io/Portfolio.io/)*)*

### **Happy Coding! 🎉**