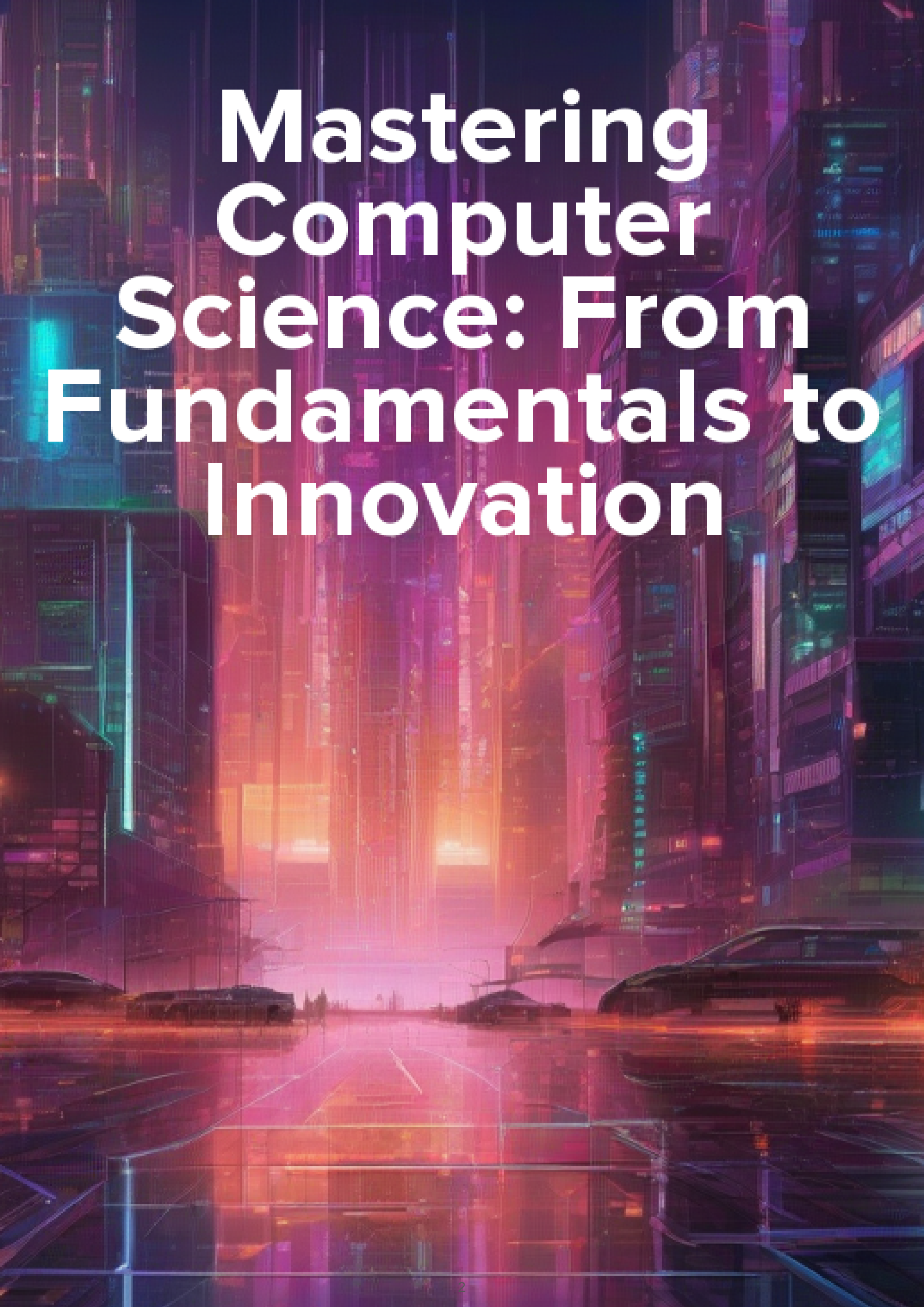

# Mastering Computer Science: From Fundamentals to Innovation

# Mastering Computer Science: From Fundamentals to Innovation

## Author: Chris Collin

Publisher: readolla.com

Published date: 2024

Here is the translation to English:

# I like it! Computer Science Handbook

## Part I: Introduction to Computer Science

- ## 1. History of Computer Science
    - 1.1. The Beginnings of Computer Science
    - 1.2. The Development of Computer Technologies
    - 1.3. Minority Groups in Computer Science
- ## 2. Definitions and Terminology
    - 2.1. Definition of Computer Science
    - 2.2. Basic Terms and Definitions
    - 2.3. Differences between Computer Science and Engineering
- ## 3. Tools and Technologies
    - 3.1. Basic Computer Science Tools
    - 3.2. Operating Systems
    - 3.3. Programming Languages

## Part II: Fundamentals of Programming

- ## 4. Programming Languages
    - 4.1. General Programming Languages
    - 4.2. Specialized Programming Languages
    - 4.3. Dynamic Programming Languages
- ## 5. Data Structures
    - 5.1. Sets
    - 5.2. Lists
    - 5.3. Arrays
- ## 6. Control Flow
    - 6.1. Loops
    - 6.2. Conditional Expressions
    - 6.3. Functions
- ## 7. Algorithms
    - 7.1. Definition of an Algorithm
    - 7.2. Types of Algorithms
    - 7.3. Sorting Algorithms

## Part III: Databases

- 8. Definition and Fundamentals of Databases
  - 8.1. Definition of a Database
  - 8.2. Types of Databases
  - 8.3. Database Structure
- 9. Database Management Systems
  - 9.1. Relational Database Management Systems
  - 9.2. Independent Database Management Systems
  - 9.3. Document-Oriented Database Management Systems
- 10. Databases in Practice
  - 10.1. Database Design
  - 10.2. Database Implementation
  - 10.3. Database Optimization

## Part IV: Computer Networks

- 11. Fundamentals of Computer Networks
  - 11.1. Definition of Computer Networks
  - 11.2. Types of Computer Networks
  - 11.3. Communication in Networks
- 12. Communication Protocols
  - 12.1. TCP/IP Protocols
  - 12.2. HTTP Protocols
  - 12.3. FTP Protocols
- 13. Local Area Networks
  - 13.1. Definition of Local Area Networks
  - 13.2. Types of Local Area Networks
  - 13.3. Designing and Implementing Local Area Networks

## Part V: Information Security

- 14. Fundamentals of Information Security
  - 14.1. Definition of Information Security
  - 14.2. Types of Threats
  - 14.3. Methods of Protection
- 15. Security Systems
  - 15.1. Firewall Security Systems
  - 15.2. Antivirus Security Systems
  - 15.3. Network Security Systems
- 16. Security Management

- 16.1. Security Policy
- 16.2. Security Plan
- 16.3. Monitoring Security

The book can be purchased at

https://readolla.com/mastering-computer-science-from-fundamentals-to-innovation