



“UniTs” - University of Trieste

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Faculty of Data Science and Artificial Intelligence/Scientific Computing  
Department of mathematics informatics and geosciences

# Algorithmic Design and Algorithmic Data Mining

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# Abstract

As a student of the “Data Science and Artificial Intelligence” master’s degree at the University of Trieste, I have created these notes to study the course “Advanced Programming” held by Prof. Pasquale Claudio Africa. The course aims to provide students with a solid foundation in programming, focusing on the C++ programming language. The course covers the following topics:

- Bash scripting
- C++ basics
- Object-oriented programming
- Templates
- Standard Template Library (STL)
- Libraries
- Makefile
- CMake
- C++11/14/17/20 features
- Integration with Python
- Parallel programming (not covered in the lectures but useful for the HPC course)

While these notes were primarily created for my personal study, they may serve as a valuable resource for fellow students and professionals interested in this field.

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