



Università  
della  
Svizzera  
italiana

Institute of  
Computing  
CI

Numerical Computing

2023

Student: FULL NAME

Discussed with: FULL NAME

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Bonus assignment

Due date: Wednesday, 22 November 2023, 11:59 PM

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**Numerical Computing 2023 — Submission Instructions**

(Please, notice that following instructions are mandatory:  
submissions that don't comply with, won't be considered)

- Assignments must be submitted to iCorsi (i.e. in electronic format).
- Provide both executable package and sources (e.g. C/C++ files, MATLAB). If you are using libraries, please add them in the file. Sources must be organized in directories called:  
*Project\_number\_lastname\_firstname*  
and the file must be called:  
*project\_number\_lastname\_firstname.zip*  
*project\_number\_lastname\_firstname.pdf*
- The TAs will grade your project by reviewing your project write-up, and looking at the implementation you attempted, and benchmarking your code's performance.
- You are allowed to discuss all questions with anyone you like; however: (i) your submission must list anyone you discussed problems with and (ii) you must write up your submission independently.

**Exercise 1: Inconsistent systems of equations [10 points]**

**Exercise 2: Polynomials models for least squares [20 points]**

**Exercise 3: Analysis of periodic data [20 points]**

**Exercise 4: Data linearization and Levenberg-Marquardt method for the exponential model [20 points]**

**Exercise 5: Tikhonov regularization [15 points]**