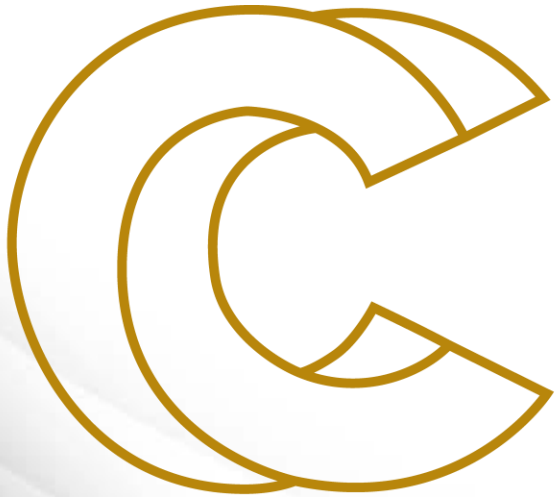
TÜBİTAK

Sabancı Üniversitesi



EURO^2

High Performance Computing with Sparse Data

Graphs, Matrices and Tensors

Kamer Kaya, Sabancı University

Welcome to the Course

Meet the Instructor:

- Kamer Kaya, Sabancı University

What you will learn

- **Sparse Data**
  - What is sparsity?
  - Where are sparse data coming from?
  - How to manage them, store them?
- **How to process them?**
  - Load balancing
  - Ordering
  - Partitioning

Preknowledge Prerequisite(s)

- Experience with C++

EURO²

What this course is and isn't?

- This course is about sparse data; if you are dealing with graphs, sparse matrices and/or tensors it will be useful for you.
- It will not teach you parallelism in any way.
- But you will learn what to focus on to obtain more performance when you want to do parallel/distributed computation on sparse data.

Introduction and Set Up/Configure/Install

- The tools mentioned in the lecture

  https://github.com/sparcityeu/SparseViz

  https://faculty.cc.gatech.edu/~umit/software.html

Thanks

This project has received funding from the European High-Performance Computing Joint Undertaking (JU) under grant agreement No 101101903. The JU receives support from the Digital Europe Programme and Germany, Bulgaria, Austria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Greece, Hungary, Ireland, Italy, Lithuania, Latvia, Poland, Portugal, Romania, Slovenia, Spain, Sweden, France, Netherlands, Belgium, Luxembourg, Slovakia, Norway, Türkiye, Republic of North Macedonia, Iceland, Montenegro, Serbia