Oliviero **Nardi**

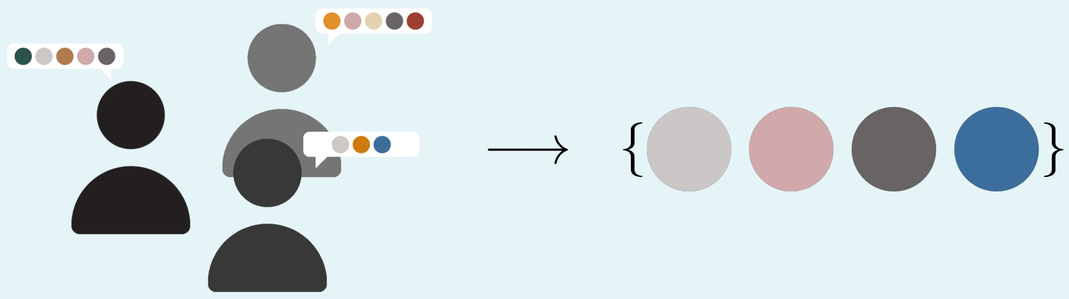
Computational Social Choice:

Computers for Democracy

We use computer science to help people make better collective decisions, ranging from political elections to everyday life.

Multi-Winner Elections.

How do we assign parliamentary seats to parties? How do we elect a board of directors in a company? How do we select a small sample of products to recommend to users?



These are all examples of elections with multiple winners. In practice, we use simple majoritarian voting rules for most of these. In **ComSoC**, we develop fair voting rules for this setting that are also fast to compute.

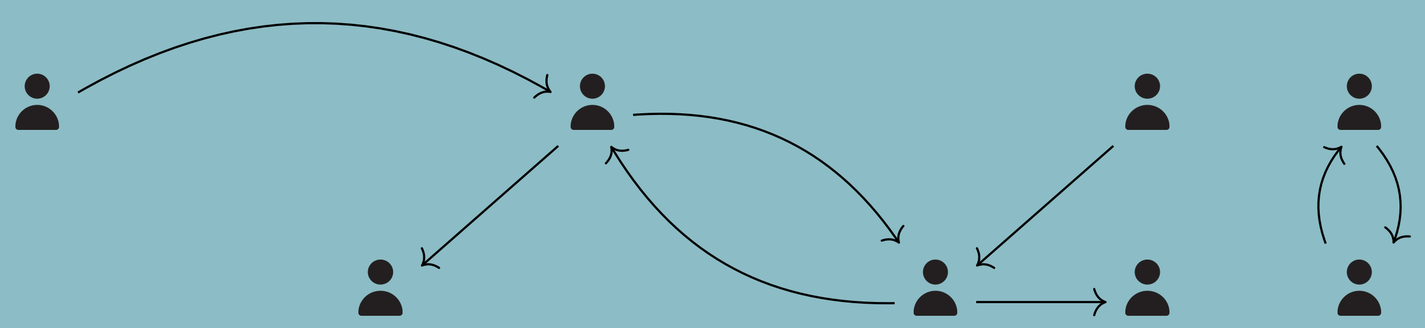
Fair Division.

How do we distribute scarce resources in times of crisis? How should we fairly split the rent between flatmates? How do we share chores in a household? How can we divide goods between a divorcing couple?

All these questions are tackled in fair division, the branch of **ComSoC** where we develop algorithms and tools to distribute items fairly and efficiently.

Online Deliberation.

A large part of the public debate now happens online. How can we develop discussion platforms that allow us to understand and represent the views of the users?



In **ComSoC**, we are interested in building platforms to support digital democracy. These would enable users to discuss and vote about different topics, and policymakers to understand and analyse such discussions.

The project leading to this application has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101034440.