



# SCHEDULE OPTIMIZER

Summer Internships 2017  
Initial Project Presentation

**Trainee: Daniel Ramos**

**Mentor: Afonso Ribeiro**

**Co-mentor: Vitor Martins**

# MOTIVATION & GOALS

- 'Dynamic scheduling' requires the use of online algorithms.
- Sub-optimal solutions, wasted resources.
- Work on a current solution and find alternatives that are more efficient, without changing the core of the solution.
- Research different techniques and implement one (or more) algorithm(s)

# STATE-OF-THE-ART

- There are a lot of restrictions.
- The problem is NP-Hard.
- Find almost optimal solutions.
- Local Search.
- Genetic Algorithms / Hill-Climbing / Local Beam Search.

# PLANNED SCHEDULE

## **Phase I (10/07/2017 - 14/07/2017):**

- Mentor meeting and planning.
- Study the available documentation.
- Understand how the platform works.
- Do an initial research.
- Update the project wiki.

## **Phase 2 (17/07/2017 - 21/07/2017):**

- Set-up the work environment.
- Analyse and choose an approach to solve the problem.
- Initial Presentation.
- Choose one (or more) algorithm(s) to implement.

### **Phase 3 (24/07/2017 - 25/08/2017):**

- Implement/Develop the algorithm(s).
- Develop a GUI to show the results of each algorithm graphically.
- Test and collect data on each of the algorithms.

### **Phase 4 (28/08/2017 - 8/09/2017):**

- Compare the results of each algorithm.
- Decide which algorithm is the most appropriate.
- Final Presentation.

QUESTIONS?