SPEET:

STRATEGIC PARTNERSHIP ERASMUS+

EDUCATIONAL PROJECT

R. Vilanova,
Universitat Autònoma de Barcelona

SPEET Multiplier Event,
Barcelona, 25 April, 2018

SPEET: STRATEGIC PARTNERSHIP ERASMUS+ EDUCATIONAL PROJECT

Erasmus+ is the **EU Programme in the fields of education, training, youth and sport for the period 2014-2020**. Education, training, youth and sport can make a major contribution to help tackle socio-economic changes, the key challenges that Europe will be facing until the end of the decade and to **support the implementation of the European policy agenda for growth, jobs, equity and social inclusion**. In order to achieve its objectives, the **Erasmus+ Programme** implements the following Actions:

KEY ACTION 1 – MOBILITY OF INDIVIDUALS
KEY ACTION 2 – COOPERATION FOR INNOVATION AND THE EXCHANGE OF GOOD PRACTICES
KEY ACTION 3 – SUPPORT FOR POLICY REFORM
JEAN MONNET ACTIVITIES
SPORT

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ERASMUS +

Key Action 1	Key Action 2	Key Action 3
Mobility of individuals	Cooperation for innovation and the exchange of good practices	Support for policy reform

Strategic Partnerships

+ Knowledge & Sector Alliances
+ Capacity Building

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Strategic Partnerships aim to support the development, transfer and/or implementation of **innovative practices** as well as the implementation of joint initiatives promoting **cooperation**, peer learning and **exchanges of experiences** at European level.

A Strategic Partnership is transnational and involves minimum **three organisations** from **three different Programme Countries**.

Partnerships in the fields of Higher Education, Professional, School and Adult education:

Strategic Partnerships must address either

a) at least one horizontal priority or
b) at least one specific priority relevant to the field of education, training and youth that is mostly impacted

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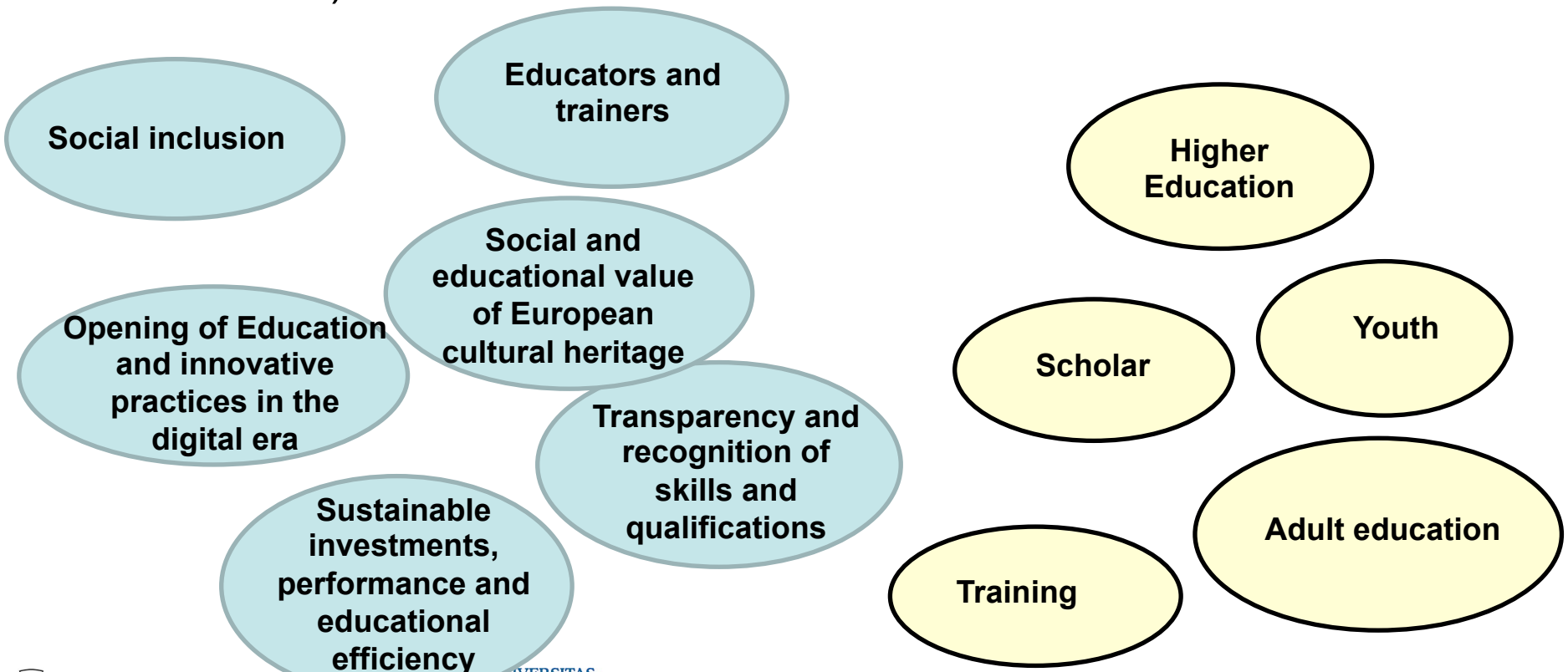
Strategic Partnerships must address either a) at least **one horizontal** priority or b) at least one **specific priority** relevant to the field of education, training and youth that is mostly impacted. (Erasmus Program Guide + 2018)



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Activities

Study plans, courses, study programs, modules, integration of different types of learning

Surveys, polls, comparative analysis, data collection, real-life studies

Advice, guidance and follow-up activities

Definition of qualitative standards and occupational profiles based on competences

Training and networking activities

New forms of teaching, learning and training

Improvement of the qualifications framework, credit transfer, quality assurance, recognition and validation

Project-based collaboration, peer learning, virtual collaboration spaces

Learning, teaching and training activities

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- **Organizations must be active in education and training**
- **Consortium size:** Minimum 3 partners– Maximum 10 (financed)
- **Activities financed:** Project management, meetings, generation of intellectual outputs, multiplier events, mobility for training
- **Financing:** 2 or 3 years
- **Màximum Budget:** 300K€ - 400K€
- **Selection procedure:** Decentraliced

Two different selection procedures:

Decentralized actions: (National Agencies - SEPIE)

- Strategic Partnerships

Centralized actions (EACEA: Brussels)

- Joint Master Degrees
- Capacity Building for Higher Education
- Jean Monnet activities
- Knowledge Alliances
- Sport

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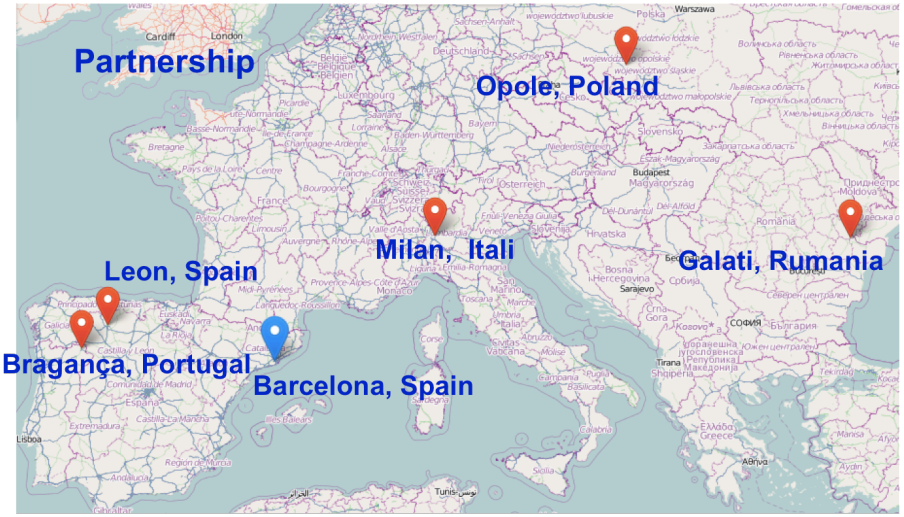
Strategic Partnerships

Exchange of Good Practices

Innovation

- school education
- higher education
- adult education
- vocational education and trainign

Consortia: 6 Partners



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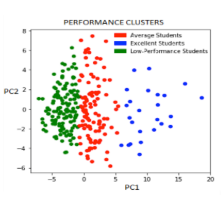
What is SPEET about?

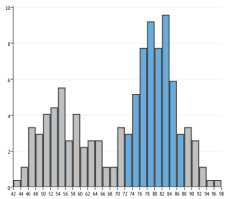
SEGMENTATION VARIABLES – TO GENERATE PERFORMANCE CLUSTERS

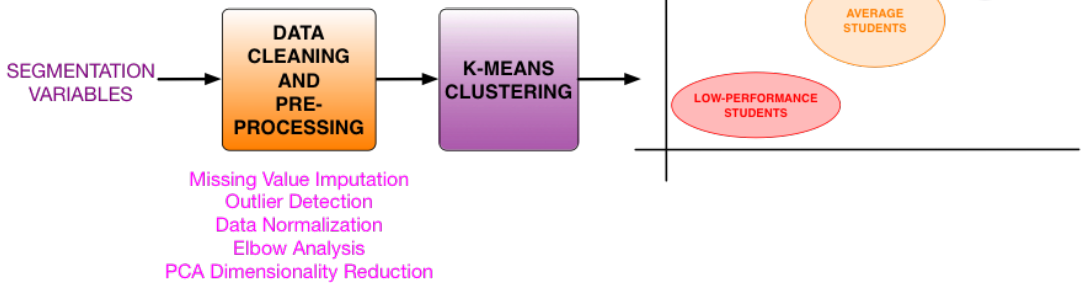
Student	Subj 1 Score	Subj 2 Score	...	Subj M Score
1	8	8	...	5
2	6	6	...	5

EXPLANATORY VARIABLES – TO EXPLAIN PERFORMANCE CLUSTERS

Student	Sex	Residence	Access Age	Previous Studies	Admission Score	Father Education	Mother Education
1	M	Barcelona	20	Not Bologna	5	University	Secondary
2	F	Sabadell	18	Secondary	7	Secondary	Doctorate







Missing Value Imputation
Outlier Detection
Data Normalization
Elbow Analysis
PCA Dimensionality Reduction

APPLIED RESEARCH AND INNOVATION

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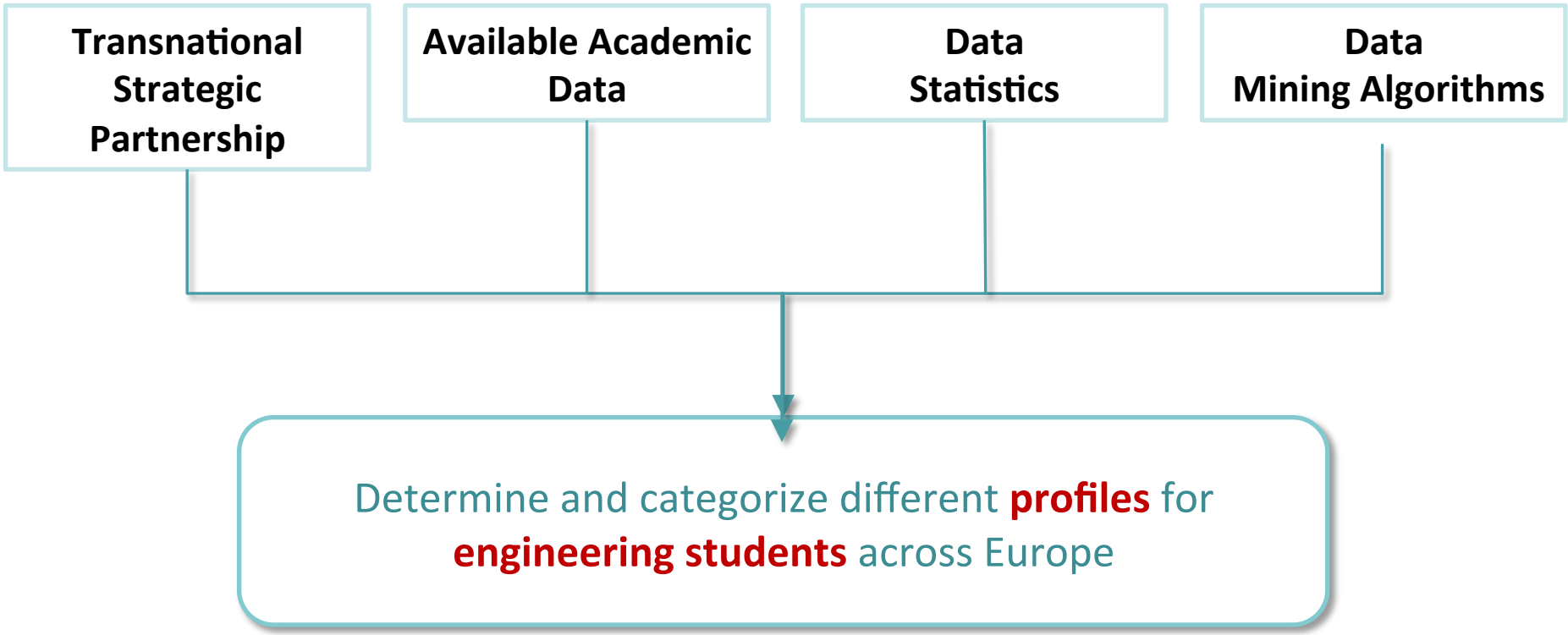
Main goal


Transnational Strategic Partnership
Available Academic Data
Data Statistics
Data Mining Algorithms
Determine and categorize different profiles for engineering students across Europe

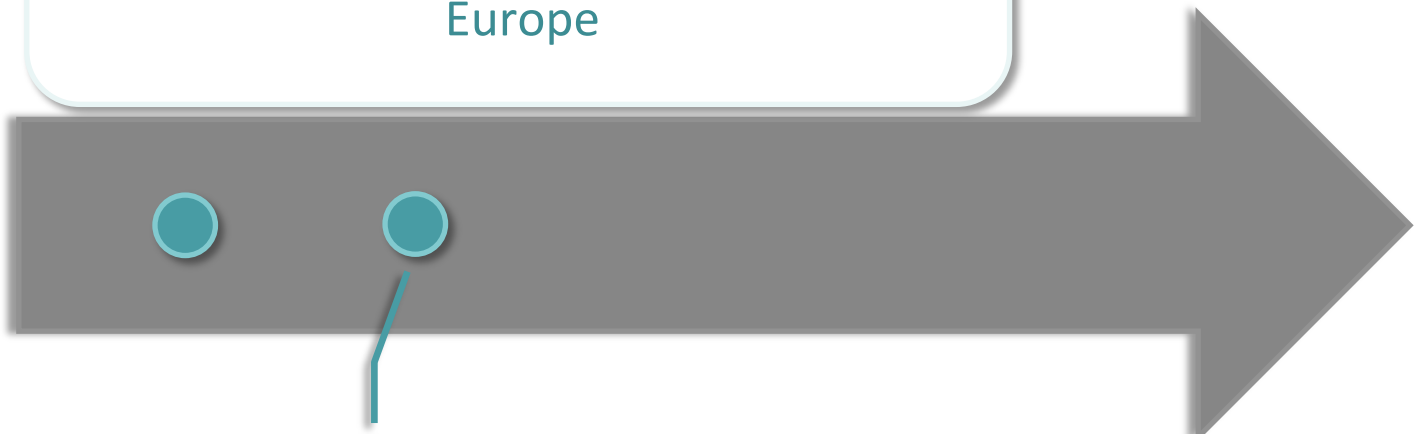
Objectives pursued step by step

Determine and categorize different **profiles** for **engineering students** across Europe

Collect engineering **students performance** and collateral data from partner organizations

Objectives pursued step by step

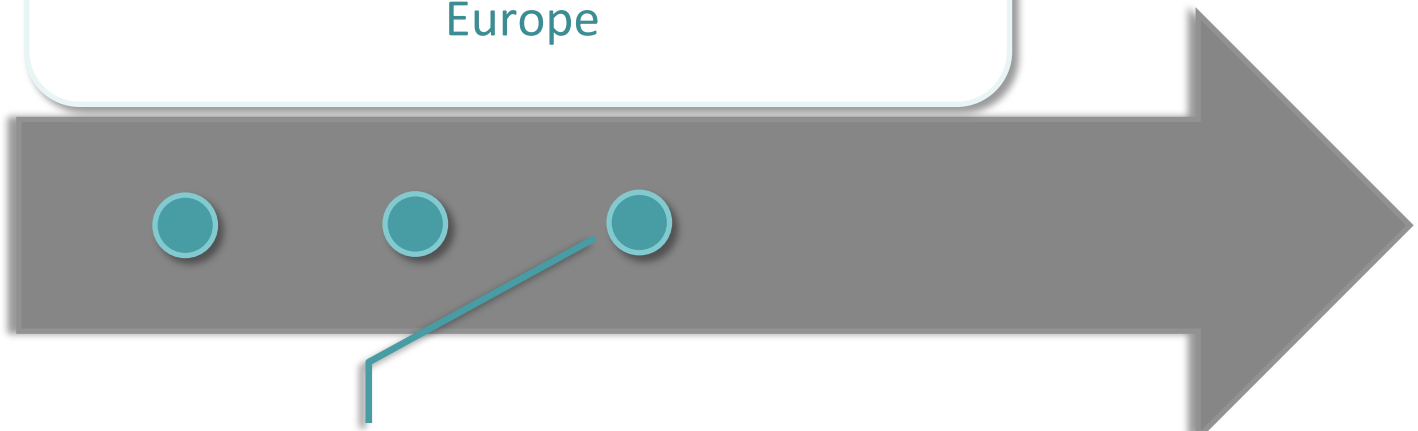
Determine and categorize different **profiles** for **engineering students** across Europe



Application of **interactive visualization** and **data mining techniques** in order to get a characterization of students profiles

Objectives pursued step by step

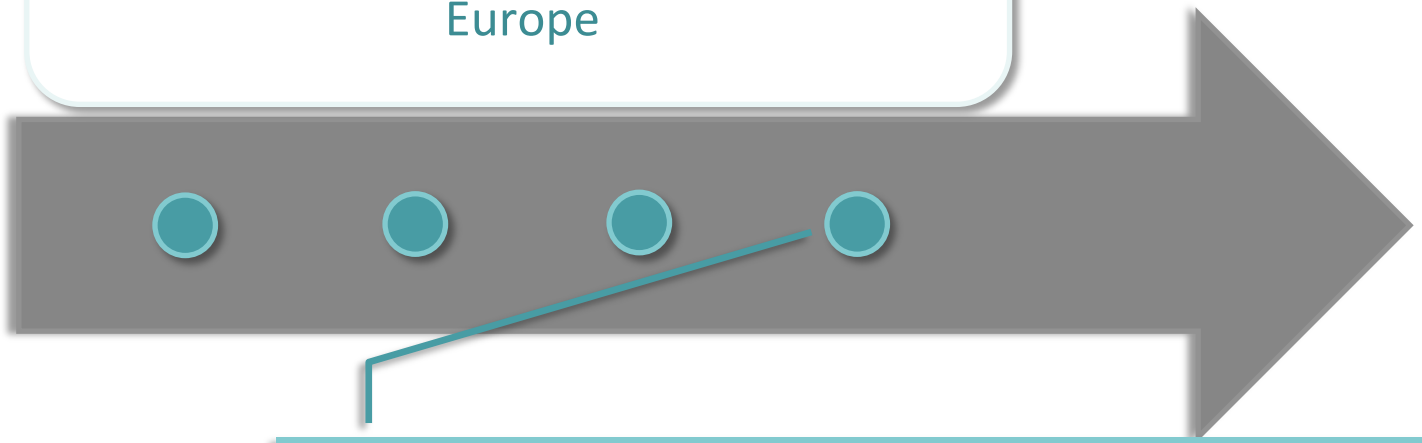
Determine and categorize different **profiles** for **engineering students** across Europe



Provide **labels** and features of the obtained profiles with the aim of **easy recognition** and classification

Objectives pursued step by step

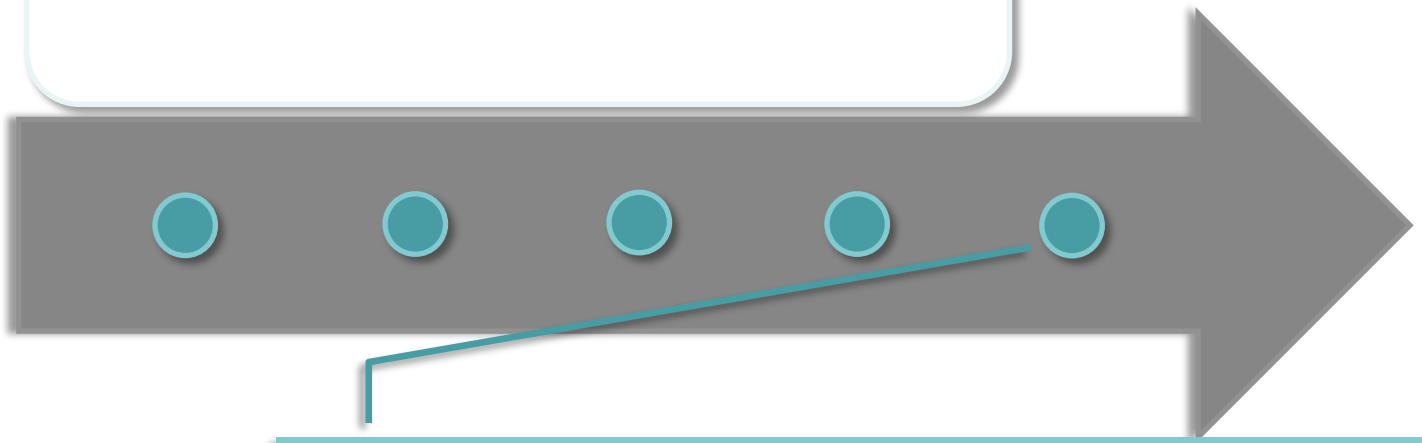
Determine and categorize different **profiles** for **engineering students** across Europe



Generate an **IT tool** to automate the data exploration and classification

Objectives pursued step by step

Determine and categorize different **profiles** for **engineering students** across Europe



Elaborate **suggestions** and **uses of this IT tool** as a support for tutoring

Academic data exploitation

Application of data mining techniques in order to get a characterization of students profile.

Provide labels and features of the obtained profiles with the aim of easy recognition and classification.

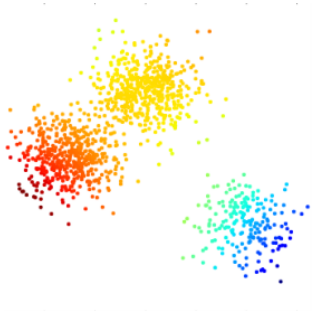
Generate an IT tool to automate the data exploration

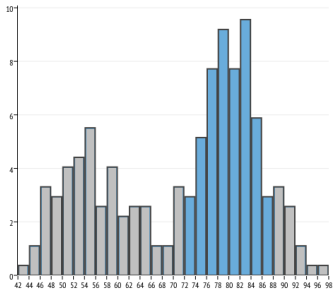
Elaborate suggestions and uses of this IT tool as a support for tutoring activities.

Academic data exploitation

- How to exploit data
  - Exploratory analysis – interactive **visualization**
  - Characterization/profiling:
    - Identification of profiles integrating **unsupervised learning** and previous knowledge
    - **Classification** of students to improve tutoring
    - Dropout and performance **prediction**
    - Identify differences at a country/institution basis

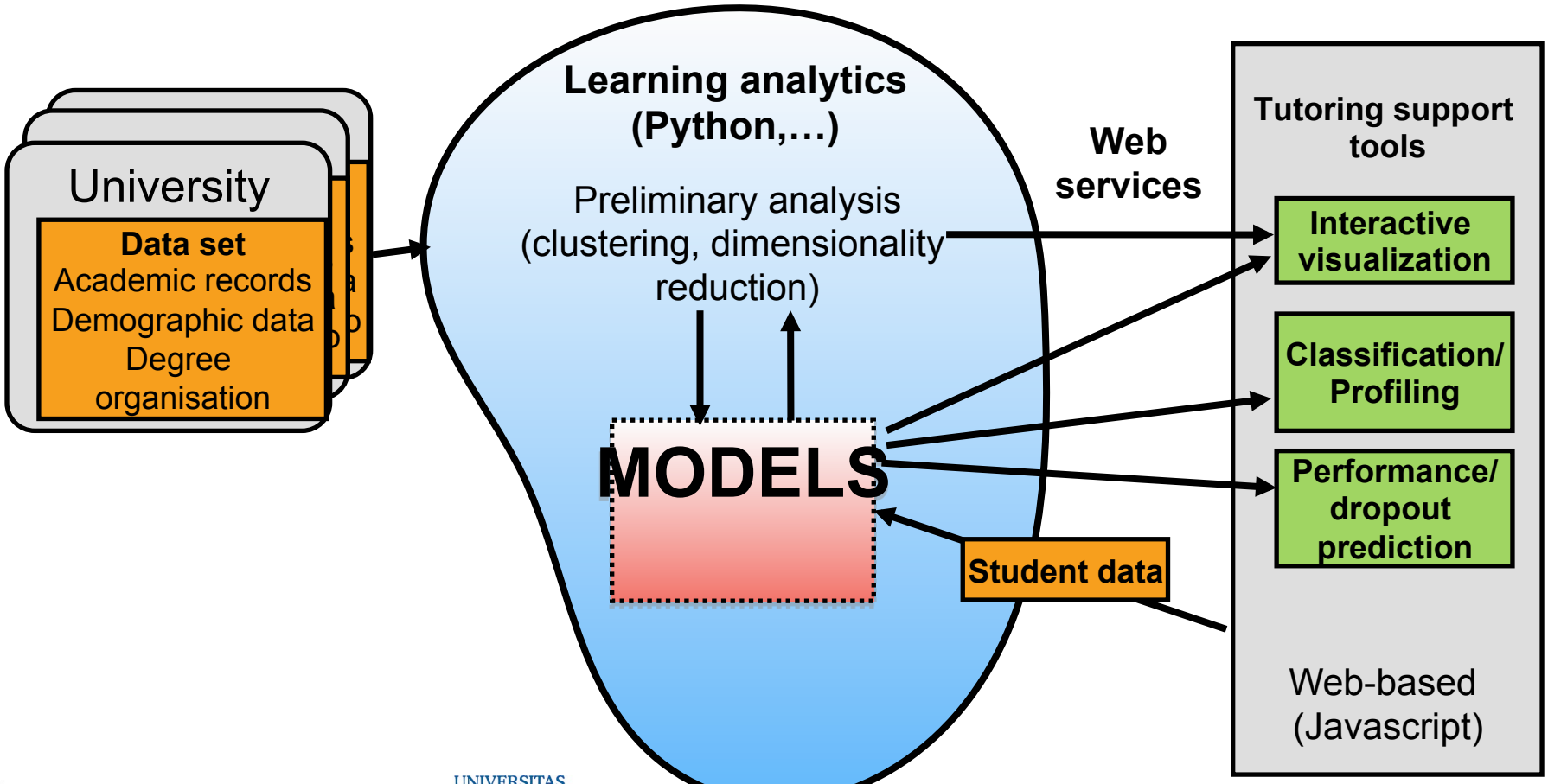
- What kind of tools/analysis do we offer?
  - Interactive visual analysis to compare students (within the same institution or across institutions)





  - Classification into a student performance profile
  - Prediction of dropout/performance

Proposed IT application



Proposed IT application

Detailed presentations later on about

Classification/ Profiling

Interactive visualization

Performance/ dropout prediction

Tutoring support tools

- Interactive visualization
- Classification/ Profiling
- Performance/ dropout prediction

Web-based (Javascript)

What about this workshop?

From the SPEET perspective, we are providing tools to help facing a problem

- Acquire better knowledge of our students academic behaviour
- Provide data-based evidence of academic performance
- Counteract the risk of drop-out
- Suggest the need for additional tutoring actions
- …..

What about this workshop?

There is the need of a better understanding of the problem and the suitability of appropriate tools to address it

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It would be nice if **you become part of the solution** by exposing your views on the right questions a tool like the envisaged one should be able to answer.

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