KDI : Knowledge and Data Integration

Introduction

Phase: 1. Introduction

W1.L12.M1.T1

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About Myself

Fausto Giunchiglia's homepage

- Member of Academia Europaea
- Full Professor in University to Trento, Italy
- TANG Aoqing Chair Professor, Honorary Professor of Jilin University, China

Research

- Artificial Intelligence
- Formal Methods
- Automated Reasoning
- Knowledge Management

About Unitn

University of Trento

- 37th of the world's young (<50) universities
- Top 200 all over the world universities

About DISI

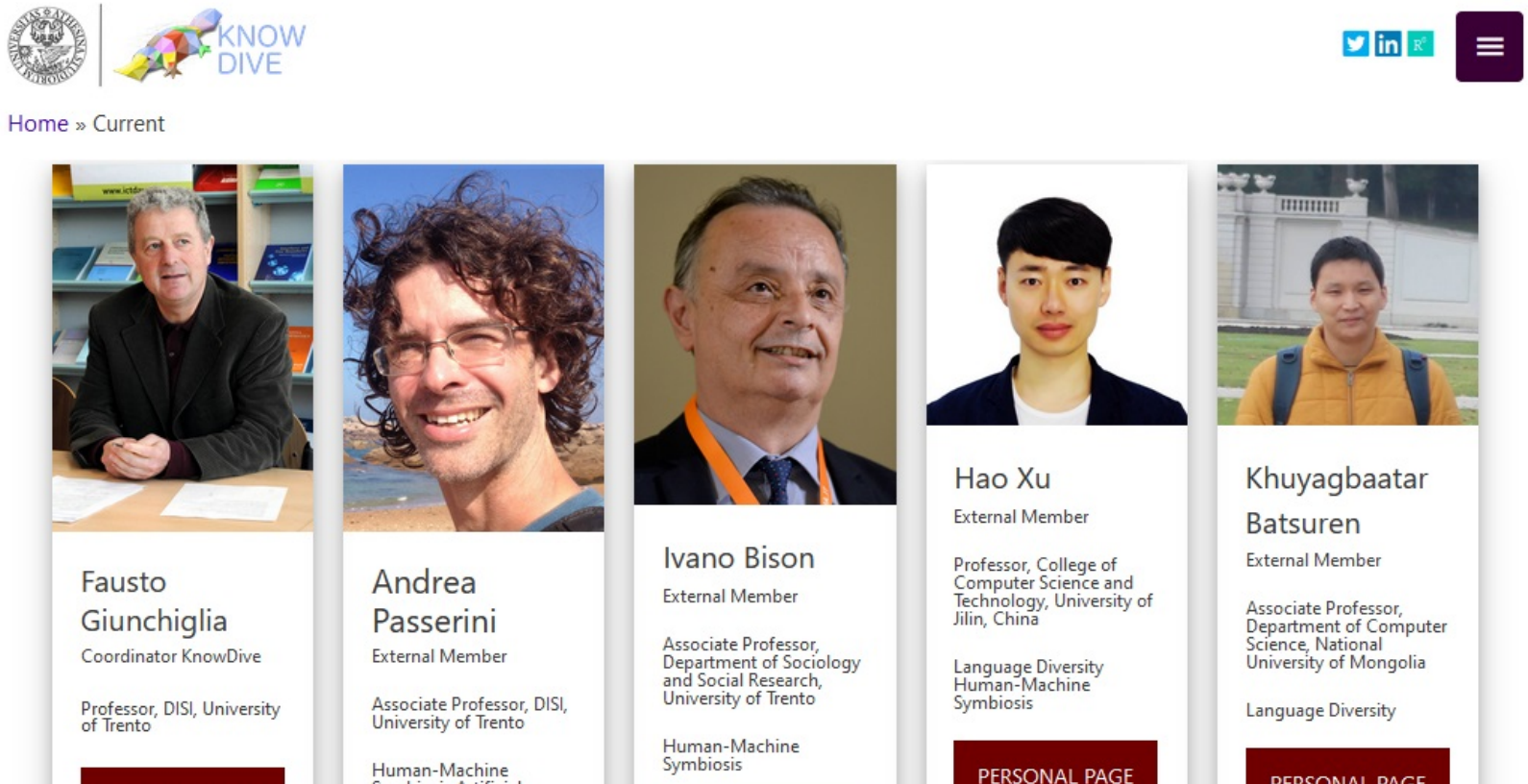
Department of Information Engineering and Computer Science (https://www.disi.unitn.it)

- Founded in 1993, with ICT International Doctoral School founded in 2001.
- Two areas: C.S. & I.E.
- C.S. is ranked 72th of the 100 Depts in the world, 1st in Italy.

About KnowDive

Knowledge Diversity (http://knowdive.disi.unitn.it/)

- Founded by Prof. Giunchiglia
- Global leading group of AI
- Internationalized, cross-cultural, multi-lingual...



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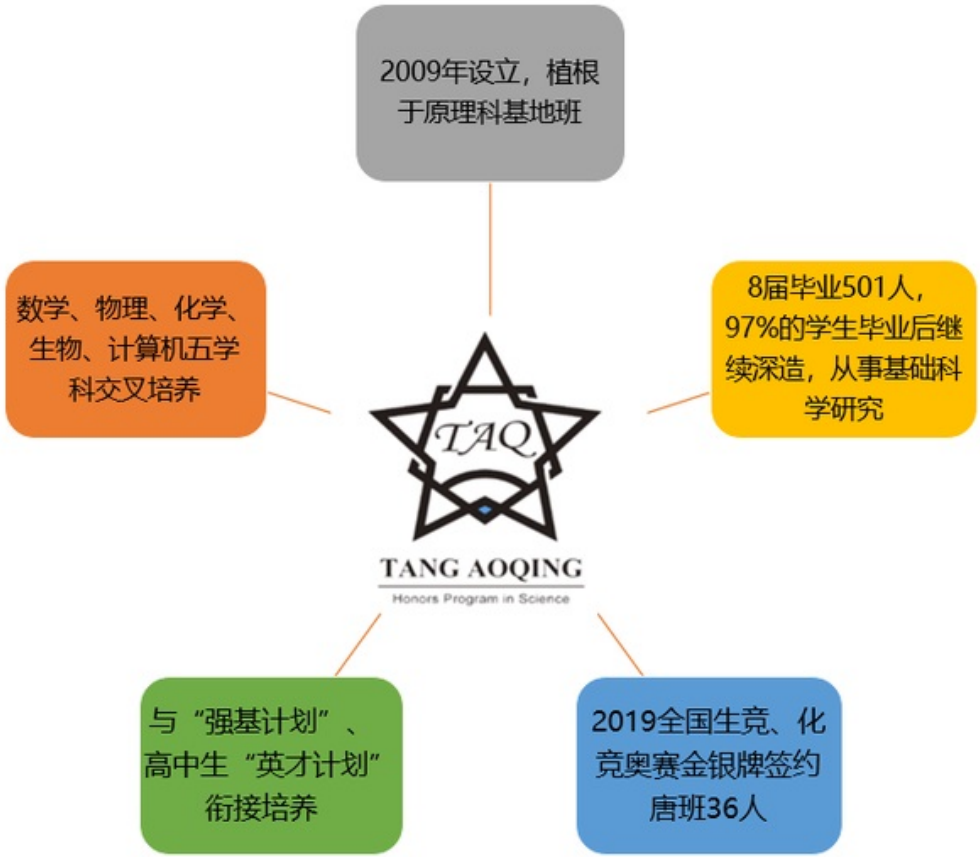
16 from Honors Program in Science

- 3rd year undergraduates, aiming at top research careers.
- Majoring in Computer Science with basic skills.
- Full of passion, potential and perseverance to explore.



Motivation

- Intrigued by the Overseas Quality Course Import Program.
- Motivated by the era of big data.
- Just a shot / try...

We hope you can answer the question after this KDI:

Can we use take better usage of the heterogeneous big data?

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Original Settings

The intended students are students of the master degree in Computer Science of the Department of Computer Science and Information Engineering (DISI) of the University of Trento.

There are no formal pre-requisites, but knowledge of modeling languages (e.g., ER Models, UML models) and of the Web languages (e.g., XML, RDF, OWL) is useful.

In Unitn, KDI is a 14 week, 48 hours, six credit, advanced course on how to collect, process and perform data and, to a certain extent, also data integration.

This is a hands-on course. After a few introductory classes, students are given a problem to solve and they need to build a knowledge graph solving this problem. This graph must be built by integrating data which are available in the Web.

Syllabus

Dec. 7 — Dec. 18 18:30 — 21:05 (UTC+8) with the **course web site**.
Flip classes will be done 'off-line' with the **website of KDI-Unitn**.

Day	Hour	Live	Module	Flip
D1	3	T1.CourseOrganization	M1. Introduction & Representation Diversity	2.RepresentationDiversity
				3.SolvingRepresentationDiversity
				5.ProjectsIllustration
D2	3	T2+T3+T5	M2. iTelos Methodology & Projects	4.MethodologyOverview
				5.ProjectsIllustration
D3	3	T4	M3. Scope Definition & Inception	6.TheoryScopeDefinition
				7.TheoryInception
				8.PracticeScope&Inception
				9.Q&AScopeDefinition&Inception
D4	3	T6+T7+T8	M4. Informal Modeling	10.TheoryInformalModeling
				11.PracticeInformalModeling
				12.AssessmentScopeDefinition&Inception
				13.Q&AInformalModeling
D5	3	T10+T11	M5. Formal Modeling	14.TheoryFormalModeling
				15.PracticeFormalModeling
D6	2	T12+T16		16.AssessmentInformalModeling
				17.Q&AFormalModeling
D7	3	T14+T15	M6. Data Integration	18.TheoryDataIntegration
				19.PracticeDataIntegration
D8	3	T18+T19		
D9	3	T20		20.AssessmentFormalModeling
				21.Q&ADataIntegration
D10	3	Random		22.Q&A-General
D11	3	Presentation		24.Exams=AssessmentDataIntegration

Figure: Syllabus of KDI-JLU

Management

- Project
  - There will be 4 projects running in this cycle.
  - Each project will be carried out by a team of 4 students.
- Role
  Students will play ***different*** roles.
  - Project Manager
  - Domain Expert
  - Knowledge Engineer
  - Data Scientist
- Tutor
  - Each team will be assigned a tutor.
  - Each tutor will take charge of the ***procedural*** assessment of the team.
  - Each team will present their achievements in the final phase and assessed by all the tutors.

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