Summer School on Advanced Database and Logic Programming Concepts

University of Würzburg
Institute of Computer Science

September, 17–21, 2017

The Venue

Intelligent Information Systems

Modern intelligent information systems need to integrate hybrid knowledge bases, containing relational or post–relational databases and semantic web / linked open data.

Logic programming and advanced database concepts provide declarative and domain–specific languages for knowledge integration using rules and ontologies.

In the last years, the emerging declarative languages compatible with the semantic web stack have led to a renaissance of *deductive databases*.

Multi–Paradigm Programming

- Traditional, *imperative* programming languages tell the computer exactly how to accomplish a goal.
- Modern, *declarative* programming languages only specify the goal to the computer, e.g.
  - Database Languages,
  - Rules in Decision Support,
  - Semantic Web (ontologies).
- Imperative programming languages can profit from declarative specifications. We investigate integrations of declarative concepts into popular imperative languages, such as Java, JavaScript, and Python.

Summer School

Advanced Database and Logic Programming Concepts

- September 17–21, 2017
- a 5–day summer school for students and PhD students within the domains of databases, AI, and semantic web
- a complete schedule will be announced until May
  - usually teaching in the morning
  - exercises/labs in the afternoon

Collocated with the Conference Declare

- September 19–22, 2017

Schedule of the Summer School

Sunday, September 17 – Thursday, September 21, 2017

Day	Topic
1	Welcome and Introduction
1	Multi–Paradigm Programming with Rules and SKE
2	Constraints and Constraint Programming
3	Multi–Paradigm Programming with Rules and SKE
4	Constraints and Constraint Programming
5	Semantic Web Knowledge Bases, Linked Open Data
5	Farewell and Conference

Constraints and Constraint Programming

Prof. Salvador Pinto Abreu, Universidade de Évora, Portugal

- Lectures in the morning
  - Constraint Programming (complete methods), theory, tools and a few toy examples
  - Global constraints
  - Reified boolean constraints
  - Optimisation problems
  - Meta–heuristics and Local Search (incomplete methods) theory, tools and small examples
- Labs in the afternoon:
  - applications

Multi–Paradigm Programming with Rules and SKE

Prof. Grzegorz J. Nalepa, AGH University, Kraków, Poland

- Lectures in the morning
  - Design of rule bases (RB)
  - Introduction to Semantic Knowledge Engineering (SKE)
  - Rules / Processes in BPMN; Context–Aware Systems
  - Rule engines on mobile devices
  - Multiple paradigms in SKE
- Labs in the afternoon:
  - SKE tools, business processes / rules, rule engine on Android, recommender systems on mobile devices

Semantic Web Knowledge Bases, Linked Open Data

Prof. Dietmar Seipel, University of Würzburg, Germany

- Introduction to the summer school
- Lectures in the morning
  - the resource description framework RDF
  - linked open data
  - the query language SPARQL
- Labs in the afternoon
  - declarative programming, the tool ClioPatria, SPARQL, integration into the programming language Python

Declare

Conference and Summer School Declare

- September 17–22, 2017
- `www.declare17.de`

Dates

- May 28: early online–registration to the summer school
- the participants (students or PhD students) have to register; they will be enrolled as students
- June 24: paper submission to the scientific conference INAP; 6 or 15 pages (short or long); July 14: notification of authors

We are looking forward to welche you in Würzburg

GEFÖRDERT VOM

Bundesministerium
für Bildung
und Forschung

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