Is there life after EPCL?

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EMCL Workshop
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Personal Background

Before EPCL

- 1986 Born in Moscow, Russia
- 2010 Master in physics (Lomonosov MSU)
- 2010 Master in applied math (Higher School of Economics, Moscow)
- 2013 Candidate of Science ($\approx$ PhD) in Math (Lomonosov MSU)

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EPCL

- 2011 Start at TU Dresden, Institute of Algebra
- 2013 Internship at Siemens CT (4 Months)
- 2014 Stay at TU Vienna, Theory & Logic group (6 Months)
- 2015 Defense at TU Dresden

My PhD project

Title

Automatic construction of implicative theories for mathematical domains.

Related Areas

- Active Learning
- Conceptual Structures
- Algebra

Finding Your Way

Academia

Industry

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- More working hours, higher salary on early stage

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- Independence and self-management
- Motivation: possibility

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- Motivation: utility

Choosing a Job

List of Advantages & Disadvantages

- Atmosphere
- Possibilities for self-fulfillment
- What can you learn, etc.

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Where to search (my choice)

jobvector, indeed, monster

Titles of Jobs I applied for

- IT Platforms for Cyber-Physical Systems
- Software Developer Semantic Web
- Research in the area of Web Science
- Consultant applied Mathematics in Big Data
- Islands of Tractability in Ontology-Based Data Access

Preparation

What matters (besides expert knowledge)

- Flexibility/adaptability

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- Demonstrate and not describe
- Personalization of your application

Application

Preparing Documents

- CV
- Motivation letter
- Certificates & References

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- Short self-introduction
- Describing your experience
- Legal issues (working times, vacation duration, salary)

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Any help with that?

- Personal Training
- Workshops
- Job Fairs

Summary

1. Decide what is important for you
2. Adapt your documents accordingly
3. Think for both sides
4. Do not be shy to ask for help

About SWC

Facts

- Founded in 2004, based in Vienna, privately held
- 31 employees, linked data experts from all around the world
- SWC participates in EU-projects with a total funding of over 17.0 million
- SWC staff members are invited experts of W3C
- Member of Steering Board of the European Data Forum
- "100 Companies that Matter in KM" for 2016 by KM World

Some Customers

- Credit Suisse
- Boehringer Ingelheim
- Roche
- adidas
- The Pokemon Company
- Red Bull Media House
- Canadian Broadcasting Corporation
- Wolters Kluwer
- Education Services Australia
- American Physical Society
- Healthdirect Australia
- World Bank Group
- Wood McKenzie
- International Atomic Energy Agency
- Ministry of Finance (AT)
- Council of the E.U.

PoolParty

Core Product

KM World listed PoolParty as Trend-Setting Product 2015

SEMANTIC WEB COMPANY

Use Cases

PoolParty Semantic Suite in a Nutshell

Global Buildings Performance Network

Clean Energy Info Portal

Overview

Current R&D projects

- 21 projects altogether: finished and ongoing
- 4 European projects
- 4 Austrian projects
- 1 commercial project
- 4 new are being planned

Word Sense Disambiguation

About

- Text → extracted concepts
- Extraction is based on underlying knowledge graph

How to disambiguate: Friends (groups of people) vs Friends (TV series)?

Our solution: Supervised WSD with proximity measure.

Data and Results

Annotated data is gathered automatically based on links to Wikipedia.

MeSH (18 entities: 2-5 categories): 0.99

Cocktails (8 entities: 2-5 categories): 0.99.

PROFIT

PROmoting FInancial awareness and sTability

- Financial education toolkits
- Crowd-sourcing tools to extract collective knowledge
- Advanced forecasting models exploiting the market sentiment
- Novel personalized recommendation

Numbers

- 1.01.2016 – 31.12.2018
- 3 Institutes, 2 companies, 1 association
- Budget $\approx$ 2M

SWC challenges

- Graph-based recommendations
- Learning loop with feedback
- Sentiment analysis
- Semi-automatic KG updates

SESAME

Semantic Smart Metering

- Matching human profiles to energy profiles.
- Profile of human: habits, likes, expectations, etc.
- General knowledge: events, date and times, geo position, etc.
- Being able to match them $\rightarrow$ prediction of energy consumption $\rightarrow$ better energy efficiency.

Numbers

- 1.09.2009 – 30.11.2010
- 1 Institutes, 4 companies
- Geography: Austria, Russia, Serbia

SWC challenges

- Preserve privacy
- Couple with general knowledge and with devices

EAR-LD

Enriching Augmented Reality with Linked Data

Mapping of physical reality around you to their description in Internet.

Numbers

- 1.04.2011 – 30.09.2012
- 3 companies
- National project

SWC challenges

- Map to geo data

LOD2

Creating Knowledge out of Interlinked Data

Creating an infrastructure for life cycles of linked open data.

- Managing very large amounts of structured data
- Network of high-quality multi-domain, multi-lingual ontologies
- Automatic interlinking and fusion of data
- Ensure privacy and data security

Numbers

- 30.09.2010 – 30.09.2014
- 4 Institutes, 5 companies, 1 foundation
- Budget: 8,58 M

SWC challenges

- Data adapters
- Large data adaptation
- Data fusion mechanisms

SEMANTIC WEB COMPANY

SemaGrow

Data Intensive Techniques to Boost the Real-Time Performance of Global Agricultural Data Infrastructures.

Numbers

- 1.11.2012 – 1.11.2015
- 4 Institutes, 2 companies, 2 foundation (UN Food Organization)
- Budget: 3,146,747

SWC challenges

- Fusion of heterogeneous data
- Real-time performance
- In general impossible: minimize losses

SEMANTIC WEB COMPANY

SymbiOptima

Improve European process industry efficiency.

- Cross-sectorial energy & resource management platform
- Developing monitoring of all relevant information flows
- Integration of smart thermal energy grid
- Propose advanced WASTE2RESOURCE initiative

Numbers

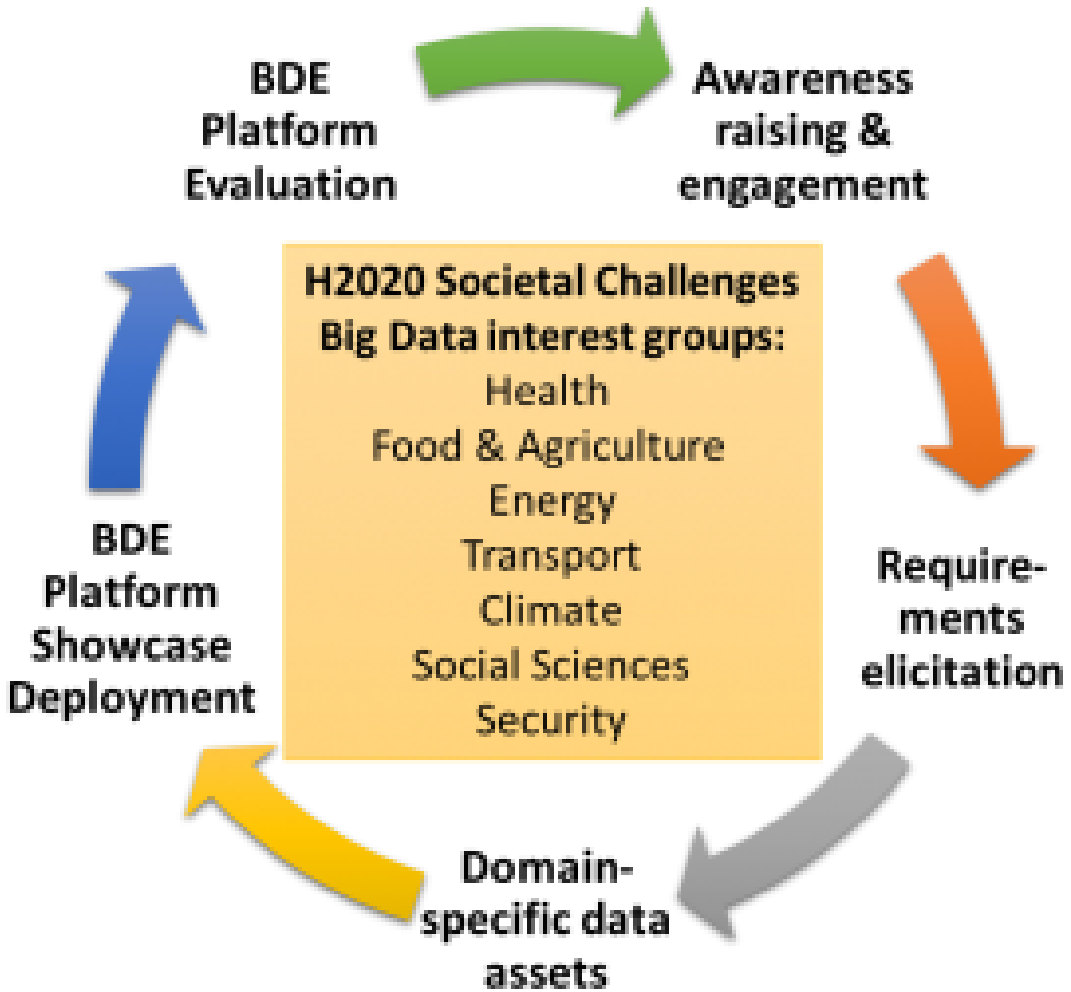
- 1.09.2015 – 30.08.2018
- 2 Institutes, 9 companies, 2 foundation

SWC challenges

- Data representation: expressibility
- Stream/batch processing

BigDataEurope

- Collect requirements for data-intensive infrastructure
- Design and implement an architecture



Future Projects

- DALICC – LD certificate meshup: how to combine data with different certificates.
- Tourism pricing strategies based on data analysis.
- Knowledge graph for media.
- Digital Dental Workflow.

Summary

1. Dynamic multi-cultural company prominent in the field
2. Intelligent data & knowledge processing
3. Research driven development
4. Challenging projects you could be part of

knowledge

Make sense of your ~~data~~, come to SWC!