LAMBDA Foresight
Panel Discussion on Big Data

Moderated and Organized by Oxford Team
Sahar Vahdati, Emanuel Sallinger

DEPARTMENT OF
COMPUTER
SCIENCE

Lead Team - University of Oxford

UNIVERSITY OF OXFORD
DEPARTMENT OF COMPUTER SCIENCE

Key partners:

TU WIEN

BANCA D'ITALIA
EUROSISTEMA

THE UNIVERSITY OF EDINBURGH

MANCHESTER 1824

...

Panel Participants

Valentina Janev

Dimitar Trajanov

Vedad Pašic´

Neven Vrček

Nikola Tomasevic

Luka Filipović

Prof. dr. sc. Neven Vrček

- Professor at University of Zagreb Faculty of Organization and Informatics (FOI)
- President of the Sectoral council for information sciences at Ministry of Science and Education, Croatia
- Member of the Supervisory Board - Ruđer Bošković Institute
- Former Dean of FOI and Head of Department of IS Development
- Author of more than 100 journal and conference papers and several books
- Experienced Manager and member of supervisory board with a demonstrated history of working in the high education sector, information technology, project management and services industry
- Research interests include: Smart Industry, Digital transformation, Open Data, Internet of Things, e-business, Entrepreneurship, Technology

Faculty of Organization and Informatics

University of Zagreb

FOI

Established in 1962, the **Faculty of Organization and Informatics is an institution that reaches back more than half a century**, which is a comparably long tradition when modern technologies studies are concerned.

Over the decades, the Faculty has been **providing education to future experts in the field of information sciences and technologies, economics, organization, communication and other related fields. 3000 students.**

UNIZG

Founded in 1669, UNIZG is a flagship university in Croatia and the oldest and the biggest university in SE Europe
80 000 students.

3000 STUDENTS

140 STAFF MEMBERS

12 STUDY PROGRAMMES

Recent projects

ORKAN – Unmanned Aerial Vehicle Policy Ecosystem

Center ofcompetencies for digital transformation of food industry in rural areas

User Experience of the Future – Smart Specialization and Contemporary Communication and Collaboration Technology

IRI Hyper

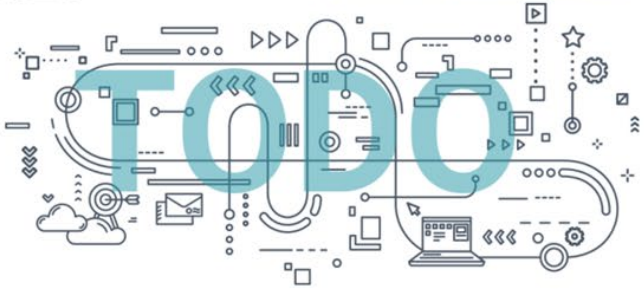
Area Based Collaborative Entrepreneurship in Cities - ABCitiEs

ABCitiEs
Interreg Europe

O-HAI 4 Games – Orchestration of Hybrid Artificial Intelligence methods for computer Games

Twinning Open Data Operational

Twinning
Open Data
Operational



e-Schools: Developing a system of digitally mature schools (Phase II)

e-Škole

RAZVOJ SUSTAVA DIGITALNO ZRELIH ŠKOLA

(II. FAZA)

BUSINESS PROCESS MANAGEMENT AND DIGITAL TRANSFORMATION LABORATORY

LEARNING AND ACADEMIC ANALYTICS LABORATORY

Laboratories

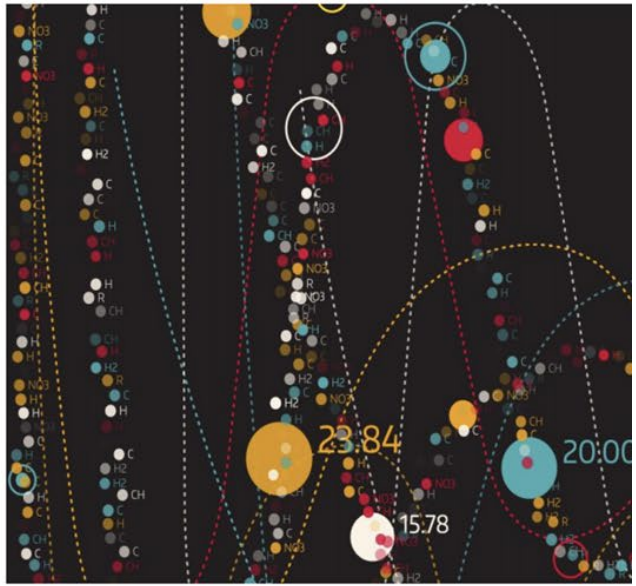
IOT LABORATORY

lab 107
innovate, learn, have fun

LABORATORY FOR DESIGN OF SOFTWARE INTERFACES, INTERNET SERVICES AND VIDEOGAMES

LABORATORY FOR GENERATIVE PROGRAMMING AND MACHINE LEARNING

LABORATORY FOR DATA TECHNOLOGIES



AI LABORATORY

LABORATORY FOR APPLIED SOFTWARE ENGINEERING

LABORATORY FOR WEB ARCHITECTURES TECHNOLOGIES, SERVICES AND INTERFACES

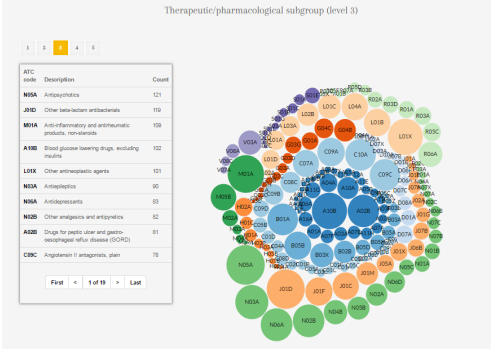
CENTER FOR FORENSIC, BIOMETRY AND PRIVACY

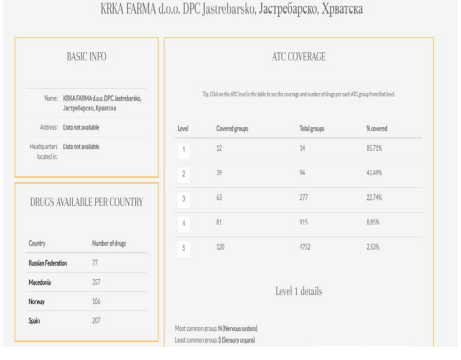
Prof. dr. Dimitar Trajanov

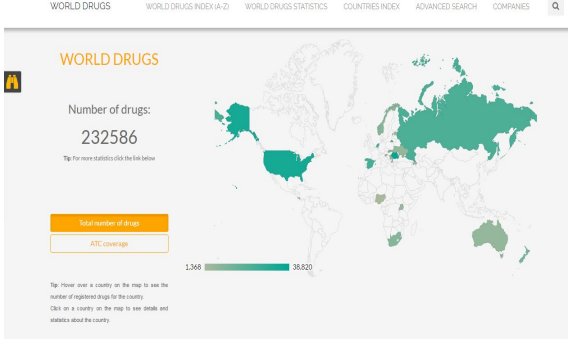
- Head of Department of Information systems and network technologies at Faculty of Computer Science and Engineering - ss. Cyril and Methodius University –Skopje.
- Leader of Social Innovation Hub
- CEO MindTRON Technologies
- Author of more than 150 journal and conference papers and seven books.
- Involved in more than 60 research and industry projects
- Research interests include Data Science, Machine Learning, NLP, FinTech, Semantic Web, Open Data, Sharing Economy, Social Innovation, e-commerce, Entrepreneurship, Technology for Development, Mobile Development, and Climate Change.

GODD: Global Open Drug Platform

- The platform integrate medicine and drug data from 50+ countries in the worlds
- Analysis and monitoring of
  - Drug coverage analysis based on ATC groups
  - New drug usage per country
  - Pharma companies analytics
  - New drags registration
  - Drug similarities

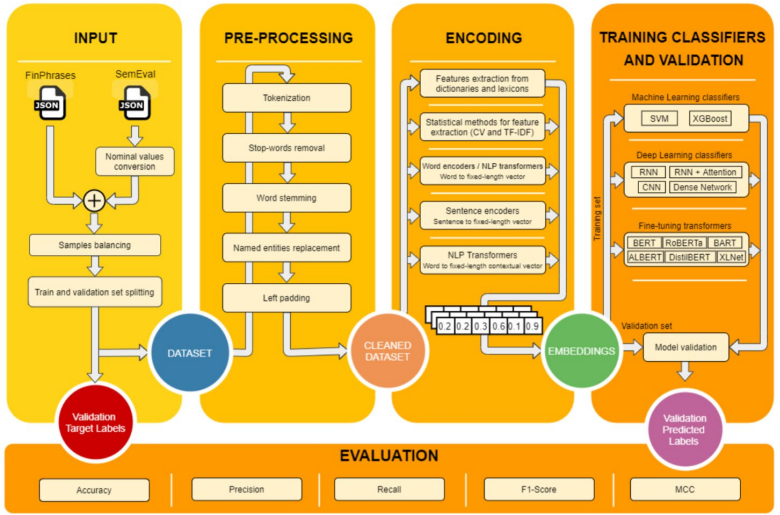






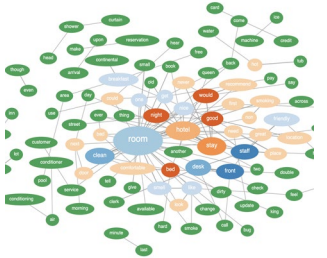
FINSENT: Platform for Sentiment Analysis and Evaluation in Finance

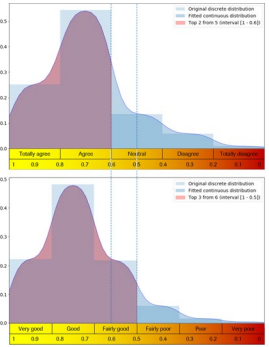
- Enable evaluation of text-representation
- Enable Machine learning classification models
- The platform offers:
  - more than 100 Sentiment Analysis model
  - support for the following text encoders: TF-IDF, Word2Vec, FastText, Glove, ELMO, Doc2Vec, STV, InferSent, USE, LASER, BERT, XLNET, XLM, finBERT, DistilBERT, RoBERTa, ALBERT, BART
  - support for the following classifiers: SVM, XGBoost, CNN, RNN, RNN+Attention, Dense Network

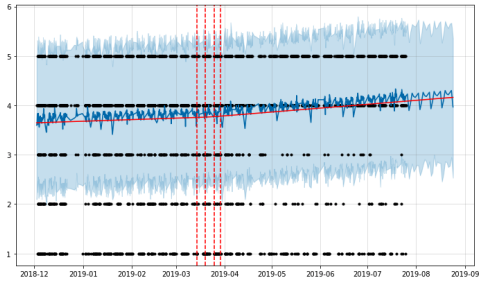


TEXTSENSE: Survey Text Analytics and Visualization

- TextSense is used as a tool to analyze the results of Survey responses and present them in an visual form.
- Visual representations are very effective tool to give an general overview especially in the case of large text documents.
- Sentiment analysis
- User satisfaction summarization
- Topic model for discovering the abstract "topics" that occur in a collection of documents.
- Predict expected user satisfaction
- Real-time analysis support
- Causality analysis







About me

- Luka Filipović
- IT center, Univerity of Montenegro
  - Software department
- Faculty of electrical engineering, University of Montenegro
- FP6/FP7/H2020 projects
  - Distributed and parallel computing

Research interests: Software development, Information systems, Computing Infrastructures, Parallel processing, Data science, Machine learning...

Big Data in Montenegro

- Learning Big data, AI and ML topics
  - University of Montenegro
    - Faculty of electrical engineering
    - Faculty of natural sciences
  - University of Donja Gorica
  - University Mediterranean
- National and International scientific projects
  - bioinformatics, medicine, physics, chemistry, meteorology…
- IT companies

Big Data Analytics Summer School 2020

Vedad Pašić

Faculty of Natural Sciences and Mathematics

University of Tuzla, Bosnia

CV: Researcher in pure and applied mathematics

Dean of the Faculty of Natural Sciences and Mathematics

`http://pmf.untz.ba/vedad/`

Interest in Big Data

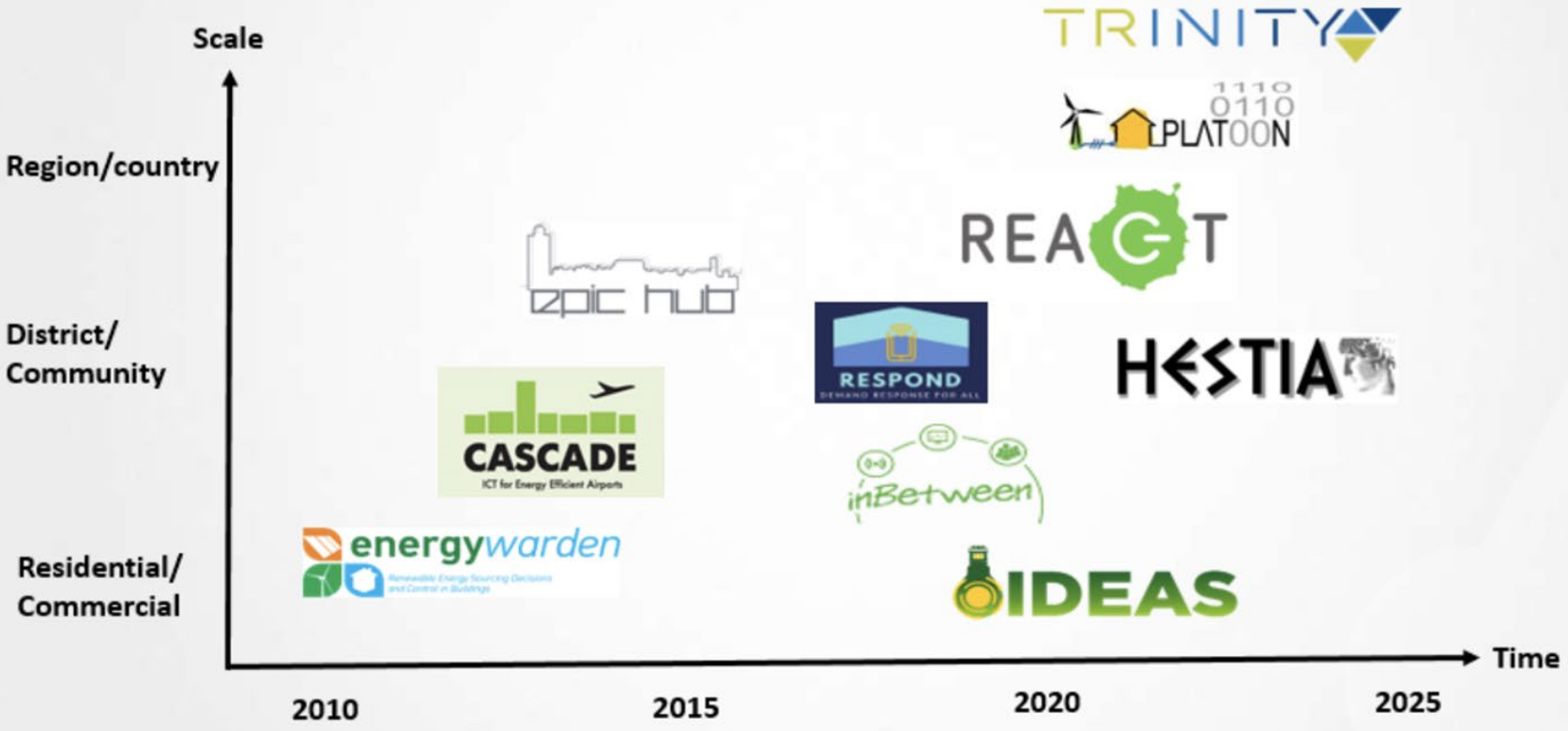
- Not directly involved as researcher
- Development of new study programs in mathematics and
- CS on all three cycles of study.
- Active and constructive collaboration with emerging IT sector of Tuzla region and Bosnia and Herzegovina.
- Good collaboration with EU office and Embassies of EU countries.
- Very good collaboration with other institutions of higher learning and science in the region and Europe
- Influence on legislature in the field of science and higher education
- Shifting research focus of young researcher towards Big Data.

Short CV

- **Nikola Tomasevic, PhD**
  - **Current position:** Project Manager at Mihajlo Pupin Institute
  - With the Mihajlo Pupin Institute since 2007. He received a Dipl. Ing. Degree in July 2007 at the School of Electrical Engineering, University of Belgrade, Serbia. In December 2013, he defended his PhD thesis at the Department of Communications and Information Technologies of the School of Electrical Engineering, University of Belgrade.
  - He is involved in technical management and research activities of R&D projects in various domains. Currently, under the H2020 Work Programme, he is managing two H2020 projects (REACT and RESPOND) and taking active role in several other H2020 projects (such as InBetween, IDEAS and LAMBDA).
  - So far, he took part in a number of EU H2020, FP7 and FP6 projects (H2020 SlideWiki, FP7 EPIC-HUB, CASCADE, EMILI, Reflect, and FP6 Web4Web) and also was actively involved in R&D projects financed by the Ministry of Science and Technological Development of Serbia (SOFIA and AMICA).
  - In his scientific career, his research activities were focused on energy efficiency, emergency management, recommendation and support systems, semantic web technologies, mobile communication systems, learning analytics and natural language processing. He (co-)authored more than 40 scientific and technical papers as journal, conference and workshop contributions.
  - He also serves as a reviewer for respectable journals (Applied Energy (Elsevier), Transactions on Wireless Communications (IEEE), International Journal of Neural Systems (World Scientific), Artificial Intelligence Review (Springer), etc.), as a PC member and session chair of international conferences (such as TELFOR and ICTERI).

Related research projects

FP7 and H2020

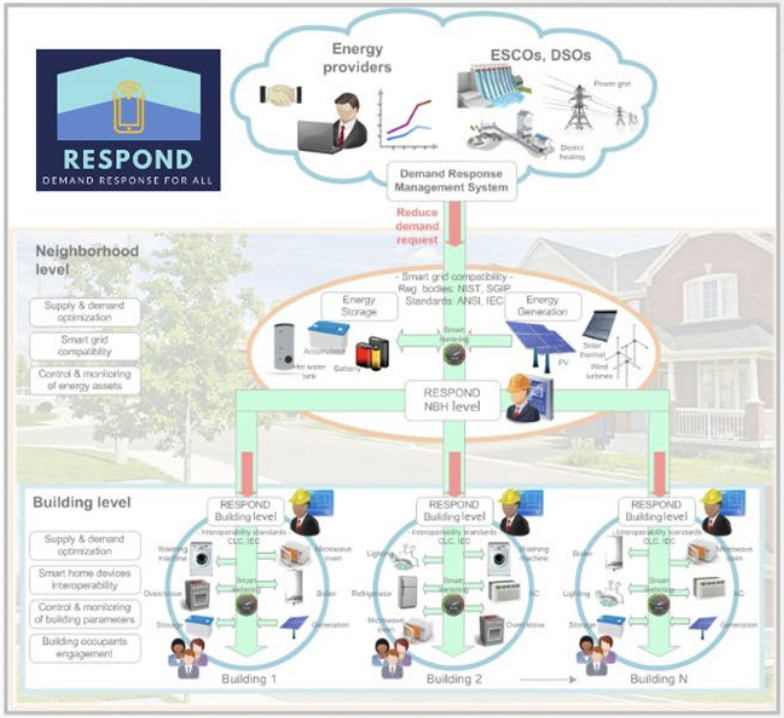


H2020 RESPOND

http://project-respond.eu/

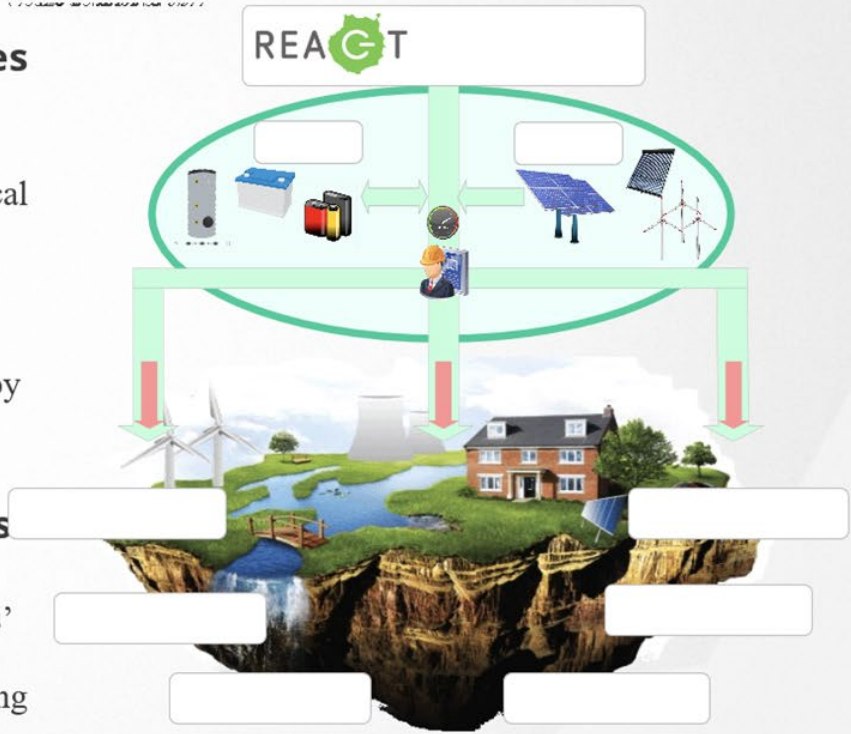
Integrated demand **RE**sponse **S**olution towards energy **PO**sitive **N**eighbourhoo**D**s

- Deploy and demonstrate **cost effective**, **user centred solution**, entailing energy automation, control and monitoring tools, for a **seamless integration of cooperative DR programs** into the legacy energy management systems.
- Owing to its flexibility and scalability, RESPOND solution will be capable of delivering a cooperative demand response **at both building and district level**.



REACT - Renewable Energy for self-sustAinable island CommuniTies

- **Integrating existing and emerging technologies through cloud-based solution for integrated and digitalised smart grid**
  - Potential to support 100% energy autonomy of geographical islands.
- **Piloting the REACT solution on 3 islands in 3 market contexts in 3 different climates**
  - Potential to reduce GHG emission and energy costs both by > 60%, achieve at least 10% of energy savings.
- **Develop partner-backed viable plans for the large-scale replication of the implementations of the REACT solution on 5 follower islands**
  - Measure the socio-economic benefits of enhancing islands' energy autonomy to the extent that existing fossil fuel generators shall be used only as security back-up in the long term.



https://react2020.eu/

Panel Discussions

What are the industry domains that in your opinion will have the biggest impact from emerging technologies in your country/the region?

What is your opinion on required governmental actions for facilitating further development of Big Data research in your country/the region?

What is your opinion on required actions for educational policies and designing new curricula in your country/the region?

Concluding Word