REPORT – PEDAGOGICAL TRAINING

Pedagogical training for teaching staff of Serbia and Albania

– held from the 25th until the 31th of March 2022

– in person and financed byTeComp project.

We presented five lectures for the master study students and to the teachers as well.

TEACHERS (TRAINERS)

IRINA PERFILIEVA

- Full Professor, Institute for Research and Application of Fuzzy Modeling University of Ostrava, Czech Republic

PhD thesis "Functional Completeness in Countable-Valued Logics"

Her professional interests encompass following themes:

- Fuzzy set theory, fuzzy modeling, F-transforms, functional analysis, lattice-ordered algebras, integral and differential equations

- Image processing, machine learning

TeComp

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IRINA PERFILIEVA

„Fuzzy Logic as a Method for Approximate Reasoning"

„Algebras for Fuzzy Logics"

Main goals:

- Fuzzy logic as Logical theory of formal deduction
- Fuzzy Reasoning. Deduction and Estimation
- Truth Scales and Truth Functions
- Residuated lattice as an algebra of truth values
- Lattice-ordered algebras with residuated operators

What was discussed?

- What is a proof in a formal fuzzy logic
- How to estimate the degrees of truth in a fuzzy logic
- In which way lattice-ordered algebras generalize Boolean algebra

IRINA PRFILIEVA

„Introduction to Fuzzy Logic as a Method for Approximate Reasoning "

Main gooals:
- To discusse the prerequisites and applications of fuzzy logic
- To explain the technique of fuzzy transforms
- To discuss the relationship between the fuzzy transform and other well-known integral transforms
- Two phases were introduced: direct and inverse fuzzy transform and the properties were listed

What was discussed?

- Is there a software tool for working with the fuzzy transform?
- What are other applications of this methodology?
- What are the known complexity estimates for the proposed applications?

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TEACHERS (TRAINERS)

PETRA MURINOVÁ

- Associate Professor, Institute for Research and Application of Fuzzy Modeling, University of Ostrava, Czech Republic

  - PhD thesis "*A Formal Theory of Intermediate Generalized Quantifiers*"

  - Habilitation thesis "*A formal theory of intermediate generalized quantifiers*"

  - Her professional interests encompass following themes: fuzzy natural logic, interpretation of natural data

  - Education of young students, teaching and learning

REPORT- PEDAGOGICAL TRAINING

PETRA MURINOVÁ

„*Introduction to the fuzzy set theory: Motivation, Examples, Discussion*"

Main goals:

- Introduce students to the concept of fuzzy set

- To present the application areas of the use of fuzzy set

What was discussed?

- Several examples of fuzzy sets.

- The use of fuzzy sets in the processing of natural data and in the field of logical syllogisms.

PETRA MURINOVÁ

„LFLC Software (Linguistic fuzzy logic controller): Description, Examples, Discussion "

Main goals:

- Introduce approximate method: logical deduction and fuzzy approximation,
- Introduce fuzzy IF-THEN rules with concerete examples

- To present the application areas of the use of fuzzy IF-THEN rules

What was discussed?

- Several examples of fuzzy regulation.
- There was a demonstration of several regulatory processes in the simulation pragram

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