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Julian Zubek

Education

2012–2015 Institute of Computer Science, Polish Academy of Science

- Doctor of Philosophy
- thesis: "Methods of Integration of Multiscale Information in Artificial Learning Systems" (diploma with distinction)
- date: 18.05.2017

2011–2012 Warsaw University of Technology, Faculty of Mathematics and Information Science

- programme: Computer Science (Master level)
- thematic path: Methods of Artificial Intelligence
- Master of Engineering (*summa cum laude*)
- thesis: "Applications of Memory Management Optimization Techniques in Script Languages Interpreters"

2007–2011 Warsaw University of Technology, Faculty of Mathematics and Information Science

- programme: Computer Science (Bachelor level)
- Bachelor of Engineering
- thesis: "Translation of Ruby Language Source Code to Language Compilable to Machine Code"

Professional experience

2019–2023 assistant professor, Faculty of Psychology, University of Warsaw

2017–2019 research assistant, Institute of Psychology, Faculty of Philosopy, Jagiellonian University

2016 research assistant, Centre of New Technologies, University of Warsaw

2015 senior technician, Centre of New Technologies, University of Warsaw

2014 technician, Interdisciplinary Centre for Mathematical and Computational Modelling, University of Warsaw

Scientific interests

- cognitive processes modelling, distributed and embodied cognition
- data analysis, machine learning, complexity science

Skills

- programming languages: **Python**, **R**, **Julia**, JavaScript, C, Ruby, Java, C++, C#, Matlab, PHP, Prolog, SQL, J, Visual FoxPro, Assembler, Clojure, Erlang, Postscript
- practical data analysis and visualization
- advanced statistical modeling in social sciences (Mixed Models, Structural Equation Modeling, Item Response Theory)
- dynamical time series analysis (Recurrence Quantification Analysis)
- machine learning and deep learning
- agent-based modeling of social phenomena
- knowledge of GNU/Linux operating system, proficiency in LaTeX

Languages

Polish (native), English (C1 – CAE), German (B1 – *Zertifikat Deutsch*)

Internships

2016	Bangor University, Bangor, Wales, United Kingdom (3 months) Work with prof. Ludmila Kuncheva on flexible categorization models.
2015	Institute of Computer Science, Polish Academy of Sciences, Warsaw, Poland (2 months) Work with prof. Dariusz Plewczyński on theoretical measures data complexity.
2014	Institute of Psychology, Polish Academy of Sciences, Warsaw, Poland (2 months) Work with prof. Joanna Rączaszek-Leonardi on the structure of language categories of wine description.

Work in research projects

2019–2023	investigator in Polish National Science Centre project (NCN 2018/29/B/HS1/00884) "Agent-based Models of Symbolic Communication Inspired by Developmental Processes". PI: prof. Joanna Rączaszek-Leonardi.
2017–2019	investigator in Polish National Science Centre project (NCN 2015/19/B/HS6/01252) "Stability and Continuity of Theory of Mind Development in Middle Childhood. Trajectories and Predictors of Development". PI: prof. Marta Białecka-Pikul.
2015–2016	PI of ETIUDA Polish NCN project (NCN 2015/16/T/ST6/00493): "Methods of Integration of Multiscale Biological Information in Artificial Learning Systems".
2014–2016	investigator of Polish National Science Centre project (NCN 2013/09/B/NZ2/00121) "Applications of High-performance Computational Methods to Model Diversification of Hemagglutinin of Influenza Virus". PI: prof. Dariusz Plewczyński.
2011–2014	investigator in EuroUnderstanding Collaborative Research Project (CNR, FI, FWO, MNiSW, NWO, 888/N-EuroUnder/2011/0) "Digging for the Roots of Understanding". PI: prof. Joanna Rączaszek-Leonardi.

Teaching experience

- "Introduction to machine learning" (lecture), University of Warsaw, 2020–2022
- "Cognitive processes modelling I" (lecture), University of Warsaw, 2019–2023
- "Cognitive processes modelling II" (lecture and laboratory exercises), University of Warsaw, 2019–2022
- "Python zaawansowany" (lecture and laboratory exercises), University of Warsaw, 2017–2018
- "Introduction to modeling of cognitive processes" (lecture), University of Warsaw, 2017–2018
- "Modelowanie procesów poznawczych II" (lecture and laboratory exercises), University of Warsaw, 2017
- "Wstęp do modelowania procesów poznawczych" (lecture), University of Warsaw, 2016
- "Wstęp do modelowania systemów poznawczych" (seminar), University of Warsaw, 2015–2016
- DElab Data Analysis Summer School, University of Warsaw, Poland, 30.06–4.07.2015