

Curriculum vitae et studiorum of Julian Zubek born on 01/06/1988

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 Philosophy, Jagiellonian University

2016–2019 workshop instructor, deepsense.io

Conducting workshops on machine learning and neural networks for private companies and universities across Europe (Poland, Italy, United Kingdom).

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

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 of 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.

PI of research grants

2023 PI of New Ideas 3A project "Experiencing interaction in improvised dance – intersubjective narrations and movement analysis" funded within "Excellence Initiative – Research University (2020–2026)" at the University of Warsaw.

2015–2016 PI of ETIUDA Polish National Science Centre project (NCN 2015/16/T/ST6/00493): "Methods of Integration of Multiscale Biological Information in Artificial Learning Systems".

Investigator in research grants

2019–2023 co-investigator, co-author of the proposal of 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.

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.

Publications

Rączaszek-Leonardi, J., & Zubek, J. (2023). Is love an abstract concept? A view of concepts from an interaction-based perspective. *Philosophical Transactions of the Royal Society B*, 378(1870), 20210356. <https://doi.org/10.1098/rstb.2021.0356>

Bancerek, M., & Zubek, J. (2023). The emergence of coordinative dialogue – pragmatic context in multi-agent communication. *Proceedings of the Annual Meeting of the Cognitive Science Society*, 45(45). <https://escholarship.org/uc/item/6md4n8cw>

Rorot, W., Skowrońska, K., Nagórska, E., Zieliński, K., Zubek, J., & Rączaszek-Leonardi, J. (2023). Structuring unleashed expression: Developmental foundations of human communication. *Behavioral and Brain Sciences*, 46, e13. <https://doi.org/10.1017/S0140525X22000838>

Zubek, J., Ziembowicz, K., Pokropski, M., Gwiazdziński, P., Denkiewicz, M., & Boros, A. (2022). Rhythms of the day: How electronic media and daily routines influence mood during COVID-19 pandemic. *Applied Psychology: Health and Well-Being*, 14(2), 519–536. <https://doi.org/10.1111/aphw.12317>

Białecka-Pikul, M., Białek, A., Kosno, M., Stępień-Nycz, M., Blukacz, M., & Zubek, J. (2022). Early mindreading scale: From joint attention to false-belief understanding. *European Journal of Developmental Psychology*, 19(2), 301–318. <https://doi.org/10.1080/17405629.2021.1911799>

Białek, A., Zubek, J., Jackiewicz-Kawka, M., Adamik, K., & Białecka-Pikul, M. (2022). Coordinating movements and beliefs: Different facets of doing things together. *Child Development*, 93(6), 1860–1872. <https://doi.org/10.1111/cdev.13827>

Dębska, A., Łuniewska, M., Zubek, J., Chyl, K., Dynak, A., Dzięgiel-Fivet, G., Plewko, J., Jednoróg, K., & Grabowska, A. (2022). The cognitive basis of dyslexia in school-aged children: A multiple case study in a transparent orthography. *Developmental Science*, 25(2), e13173. <https://doi.org/10.1111/desc.13173>

Zubek, J., Nagórska, E., Komorowska-Mach, J., Skowrońska, K., Zieliński, K., & Rączaszek-Leonardi, J. (2022). Dynamics of Remote Communication: Movement Coordination in Video-Mediated and Face-to-Face Conversations. *Entropy*, 24(4), Article 4. <https://doi.org/10.3390/e24040559>

- Korbak, T., Zubek, J., Kuciński, Ł., Miłoś, P., & Rączaszek-Leonardi, J. (2021). Interaction history as a source of compositionality in emergent communication. *Interaction Studies*, 22(2), 212–243.
- Białęcka-Pikul, M., Szpak, M., Zubek, J., Stępień-Nycz, M., Kołodziejczyk, A., Bosacki, S., & Homer, B. D. (2021). Measuring advanced theory of mind: Do story-based tasks work? *Journal of Adolescence*, 93, 28–39.
- Rączaszek-Leonardi, J., Krzesicka, J., Klamann, N., Ziembowicz, K., Denkwicz, M., Kukielka, M., & Zubek, J. (2019). Cultural artifacts transform embodied practice: How a sommelier card shapes the behavior of dyads engaged in wine tasting. *Frontiers in Psychology*, 10, 2671.
- Białęcka-Pikul, M., Szpak, M., Zubek, J., Bosacki, S., & Kołodziejczyk, A. (2018). The psychological self and advanced theory of mind in adolescence. *Self and Identity*, 1–20.
- Malkowska, M., Zubek, J., Plewczynski, D., & Wyrwicz, L. S. (2018). ShapeGTB: the role of local DNA shape in prioritization of functional variants in human promoters with machine learning. *PeerJ*, 6, e5742.
- Zubek, J., Denkwicz, M., Barański, J., Wróblewski, P., Rączaszek-Leonardi, J., & Plewczynski, D. (2017). Social adaptation in multi-agent model of linguistic categorization is affected by network information flow. *PloS One*, 12(8), e0182490.
- Zubek, J., Denkwicz, M., Dębska, A., Radkowska, A., Komorowska-Mach, J., Litwin, P., Stępień, M., Kucińska, A., Sitarska, E., Komorowska, K., & others. (2016). Performance of language-coordinated collective systems: A study of wine recognition and description. *Frontiers in Psychology*, 7, 1321.
- Zubek, J., & Plewczynski, D. (2016). Complexity curve: A graphical measure of data complexity and classifier performance. *PeerJ Computer Science*, 2, e76.
- Zubek, J., Stitzel, M. L., Ucar, D., & Plewczynski, D. M. (2016). Computational inference of H3K4me3 and H3K27ac domain length. *PeerJ*, 4, e1750.
- Chatterjee, P., Basu, S., Zubek, J., Kundu, M., Nasipuri, M., & Plewczynski, D. (2016). PDP-CON: prediction of domain/linker residues in protein sequences using a consensus approach. *Journal of Molecular Modeling*, 22(4), 1–15.
- Chatterjee, P., Basu, S., Zubek, J., Kundu, M., Nasipuri, M., & Plewczynski, D. (2015). PDP-RF: Protein domain boundary prediction using random forest classifier. *International Conference on Pattern Recognition and Machine Intelligence*, 441–450.
- Zubek, J., Tatjewski, M., Basu, S., & Plewczynski, D. (2015). Evaluating multi-level machine learning prediction of protein-protein interactions. *Computational Methods in Data Analysis ITRIA 2015*, 199–211.
- Zubek, J., Tatjewski, M., Boniecki, A., Mnich, M., Basu, S., & Plewczynski, D. (2015). Multi-level machine learning prediction of protein-protein interactions in *Saccharomyces cerevisiae*. *PeerJ*, 3, e1041.
- Plewczynski, D., Łukasik, M., Kurdej, K., Zubek, J., Rakowski, F., & Rączaszek-Leonardi, J. (2014). Generic framework for simulation of cognitive systems: A case study of color category boundaries. In *Man-machine interactions 3* (pp. 385–393). Springer, Cham.
- Saha, I., Zubek, J., Klingström, T., Forsberg, S., Wikander, J., Kierczak, M., Maulik, U., & Plewczynski, D. (2014). Ensemble learning prediction of protein-protein interactions using proteins functional annotations. *Molecular BioSystems*, 10(4), 820–830.
- Saha, I., Klingström, T., Forsberg, S., Wikander, J., Zubek, J., Kierczak, M., & Plewczynski, D. (2014). Evaluation of machine learning algorithms on protein-protein interactions. In *Man-machine interactions 3* (pp. 211–218). Springer, Cham.
- Peregud, G., Zubek, J., Ganzha, M., & Paprzycki, M. (2012). Implementing an eXAT-based distributed monitoring system prototype. *Computer Science and Information Systems*, 9(3), 1249–1285.

Invited presentations

Invited presentation titled "The dual meaning of movement coordination in interpersonal interactions" at the IMC Seminar, Interacting Minds Centre, Aarhus, Denmark, 29/11/2022.

Invited presentation titled "Intelligent agents or intelligent designers: computational architectures for social models of language evolution" at the Social Models of Meaning Acquisition Workshop, University of Warsaw, Warsaw, Poland, 23-24/05/2019.

Invited presentation titled "Generic framework for simulation of cognitive systems: a case study of color category boundaries" at the BIOFIZMAT 2 seminar, Institute of Mathematics Polish Academy of Sciences, Warsaw, Poland 15-16/05/2015.

Conference participation

XII Peripatetic Conference "Cognitive Systems Modeling", University of Warsaw, Zakopane, Poland, 26-29/10/2023

Gatherings in Biosemiotics 2023, International Society for Biosemiotic Studies, Copenhagen, Denmark, 31/07-4/08/2023

CogSci 2023 (44nd Annual Meeting of the Cognitive Science Society), Sydney, Australia, 26-29/07/2023

2nd annual Team and Multiagent Dynamics Workshop 2023, Scuola Superiore Meridionale, University of Naples Federico II, and Macquarie University, Naples, Italy, 26-27/06/2023

XI Peripatetic Conference "Cognitive Systems Modeling", University of Warsaw, Zakopane, Poland, 27-30/10/2022

Gatherings in Biosemiotics 2022, International Society for Biosemiotic Studies & Palacký University, Olomouc, Czechia, 27/06-1/07/2022

X Peripatetic Conference "Cognitive Systems Modeling: Language Emergence", University of Warsaw, talk "Computational models of language emergence – what is still missing?", Zakopane, Poland, 21-24/10/2021

9th International Symposium on Recurrence Plots, Politechnika Lubelska, talk "Relationships from Movement: cRQA in Gauging Interpersonal Coordination in a Winetasting Study", Lublin, Poland 22-24/09/2021

5th International Conference on Interactivity, Language & Cognition "Integrating Quantitative and Qualitative Methods in the Cognitive and Language Sciences", University of Warsaw & International Society for Study of Interaction Language and Cognition, poster "Models with feeling", online, 15-19/09/2021

Dzieńiąta konferencja perypatetyczna "Modelowanie systemów poznawczych", University of Warsaw, talk "Od ołówka do klawiatury: Co straciliśmy, odchodząc od pisma odręcznego?", Wierchomla Mała, Poland, 8-11/10/2020

CogSci 2020 Virtual Meeting (42nd Annual Virtual Meeting of the Cognitive Science Society), poster "Abstraction and Generalization: Comparing Adaptive Models of Categorization", online, 29/07-1/08/2020

CogSci 2020 Virtual Meeting: 42nd Annual Conference of the Cognitive Science Society, poster "The Emergence of Action-grounded Compositional Communication", online, 29/07-1/08/2020

NeurIPS 2019, 3rd Workshop on Emergent Communication, Neural Information Processing Systems Foundation, poster "Developmentally motivated emergence of compositional communication via template transfer", Vancouver, Canada, 8-14/12/2019

Cognitive Systems Modeling, 7th Peripatetic Conference, talk, University of Warsaw, Zakopane, Poland, 18-21/10/2018

8th Joint IEEE International Conference on Development and Learning and on Epigenetic Robotics, poster, Waseda University, Tokio, Japan, 16–20/09/2018

48th Annual Meeting of the Jean Piaget Society “The Dynamics of Development: Process, (Inter-)Action, & Complexity”, talk, Jean Piaget Society, Amsterdam, Netherlands, 31/05–2/06/2018

Modelowanie Systemów Poznawczych, 6-ta Konferencja Perypatetyczna, talk, University of Warsaw, Zakopane, Poland, 27–29/10/2017

Trends in Interdisciplinary Studies, 3rd Avant Conference 2017 “Understanding Social Cognition”, talk, Uniwersytet Marii Curie-Skłodowskiej, Lublin, Poland, 20–22/10/2017

Cognitive Systems Modeling, 5th Peripatetic Conference, talk, University of Warsaw, Zakopane, Poland, 6–8/10/2016

XI Zjazd Polskiego Towarzystwa Kognitywistycznego, talk, Uniwersytet w Białymstoku, Białystok, Poland, 22–24/09/2016

First NGP-NET Symposium on Non-Globular Proteins, talk, Instituto de Biologia Molecular e Celular, Porto, Portugal, 6–9/10/2015

6th International Conference on Pattern Recognition and Machine Intelligence, talk, Politechnika Warszawska, Warszawa, Poland 30/06–3/07/2015

19th Annual International Conference on Research in Computational Molecular Biology, poster, University of Warsaw, Warszawa, Poland, 12–15/04/2015

Recent Advances in Omics Research and Dissemination Conference of the OMICRON Project, poster, Uniwersytet Jagielloński, Kraków, Poland, 23–24/10/2014

International Conference on Man-Machine Interactions 2013, talk, Politechnika Śląska, Brenna, Poland, 22–25/10/2013

Conference organization

5th International Conference on Interactivity, Language & Cognition “Integrating Quantitative and Qualitative Methods in the Cognitive and Language Sciences”, University of Warsaw & International Society for Study of Interaction, Language and Cognition, online, 15–19/09/2021, local organisation committee member

Virtual Symposium NEW/FRESH PERSPECTIVES ON ABSTRACT CONCEPTS, University La Sapienza in Rome, online, 15–17/03/2021, local organisation committee member

Quali-Quant Virtual Symposium “Quantitative Preserving the Qualitative: a Teaser for Integrating Methodologies”, University of Warsaw, online, 18–19/09/2020, local organisation committee member

Peripatetic Conference “Cognitive Systems Modeling”, 2016–2023 (annual conference), University of Warsaw, Zakopane, Poland, local organisation committee member

Teaching experience

Workshop “Tools for measuring interaction and movement” at 4th Summer School on Social Human-Robot Interaction, University of Warsaw and IEEE Robotics & Automation Society, Chęciny, Poland, 18–23/09/2023.

Workshop “Dynamical methods: from coordination to abstraction” within Traincrease Twinning H2020 project, University of Warsaw, Warszawa, Poland, 21–22/04/2022.

“Introduction to machine learning” (lecture), University of Warsaw, 2020–2023

“Cognitive processes modelling I” (lecture), University of Warsaw, 2019–2023

"Cognitive processes modelling II" (lecture and laboratory exercises), University of Warsaw, 2019–2023

"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

Awards and scholarships

University of Warsaw Rector's Award 2023 for team achievement (together with Joanna Rączaszek-Leonardi and Albertyna Paciorek) – editing special issue of Philosophical Transactions of the Royal Society B "Concepts in interaction: social engagement and inner experiences" and opinion piece "Is love an abstract concept? A view of concepts from an interaction-based perspective" published within the issue.

PhD scholarship (2012–2015) within project PO KL "Information technologies: Research and their interdisciplinary applications" Agreement UDA-POKL.04.01.01-00-051/10-00 (co-funded by European Union from resources of the European Social Fund).

Institutional responsibilities

Member of the entrance examination committee for Cognitive Science Master's programme 2022–2023, member of the Cognitive Science Master's programme committee (2023)

Internal reviewer for journals

Acta Psychologica, Psychological Research, Biosemiotics, International Journal of Machine Learning and Cybernetics, F1000, iScience

Language certificates

English – full professional fluency (CAE), German – basic level (Zertifikat Deutsch B1)

Il sottoscritto, Julian Zubek, consapevole della responsabilità penale prevista, dall'art. 76 del D.P.R. 445/2000, per le ipotesi di falsità in atti e dichiarazioni mendaci ivi indicate dichiara sotto la propria personale responsabilità che tutto quanto riportato in questo Curriculum Vitae corrisponde a verità.

In fede, Julian Zubek

The undersigned, Julian Zubek, aware of the criminal liability foreseen by the art. 76 of the Presidential Decree 445/2000, for the cases of falsity in documents and false declarations indicated therein, declares under his own personal responsibility that everything reported in this Curriculum Vitae corresponds to the truth.

Yours faithfully, Julian Zubek