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# Senior Lecturer/Researcher in Applied Artificial Intelligence

School of Information Technology, Deakin University Melbourne-Burwood Campus 221 Burwood Hwy, Burwood, VIC 3125, Australia

# Associate Professor in Data Science (on long-term leave)

Faculty of Mathematics and Information Science, Warsaw University of Technology ul. Koszykowa 75, 00-662 Warsaw, Poland

# Associate Professor (on long-term leave)

Department of Stochastic Methods, Systems Research Institute, Polish Academy of Sciences ul. Newelska 6, 01-447 Warsaw, Poland

### 1 Highlights

**RESEARCHER IN DATA SCIENCE** (with particular emphasis on modelling of complex phenomena and developing of *usable*, general purpose algorithms)

- Current interests: machine learning, data clustering, data fusion, prototype learning, computational statistics, mathematical modelling for sports analytics, informetrics, science of science, etc.
- Area Editor (Aggregation Functions and Data Science) in Fuzzy Sets and Systems
- Author/editor of 85+ publications, including 40+ journal papers in outlets such as Proceedings of the National Academy of Sciences (PNAS), Information Fusion, Statistical Modelling, International Journal of Forecasting, Journal of Statistical Software, Information Sciences, Knowledge-Based Systems, IEEE Transactions on Fuzzy Systems, and Journal of Informetrics.
- Current h-index = 16 (Google Scholar) / 12 (Scopus) / 11 (Web of Science)
- Eligible Principal Supervisor at PhD level (principal supervisor of 3 PhD and 11 MSc by research students from commencement through to successful completion)

### FREE (LIBRE) AND OPEN SOURCE DATA ANALYSIS SOFTWARE DEVELOPER

- Author and maintainer of the fast & robust *Genie* hierarchical clustering algorithm (see the Python and R package *genieclust*)
- Author and maintainer of stringi one of the most downloaded R packages (over 48,000,000 downloads) that aims at text/natural language processing

# Data Science, Machine Learning, and Statistical Computing Tutor & Trainer

- Current: Deakin University (Melbourne, Australia)
- Past: Warsaw University of Technology (Warsaw, Poland), Data Science Retreat (Berlin, Germany)
- · Author of best-selling textbooks on Programming and Data Analysis in R and Python (in Polish)

## 2 Qualifications

10.2017 Systems Research Institute, Polish Academy of Sciences, Warsaw, Poland

DSc (Habilitation) in Computer Science

12.2011 Systems Research Institute, Polish Academy of Sciences, Warsaw, Poland

*PhD* in Computer Science

11.2020 Deakin University, Geelong, VIC, Australia

Graduate Certificate of Higher Education: Learning And Teaching (E575)

o6.2008 Faculty of Mathematics and Information Science, Warsaw University of Technology, Poland

BEng and MSc (by Research) in Computer Science (cum laude) [GPA 4.964/5.000]

## 3 EMPLOYMENT HISTORY

09.2019 – School of Information Technology, Deakin University, Melbourne-Burwood, VIC, Australia

Senior Lecturer in Applied Artificial Intelligence (09.2019 – )

[Note that this position is roughly equivalent to an Associate Professor (tenured) in the US]

Deputy Course (Program) Director – BSc in Data Science (03.2022–) Course Leadership Team Member – BSc in Artificial Intelligence (03.2020–)

10.2008 – 09.2019 Faculty of Mathematics and Information Science, Warsaw University of Technology

Associate Professor in Data Science (01.2018 – 09.2019) [currently on long-term leave] (Founding) Deputy Program Director – BSc and MSc in Data Science (10.2016 – 09.2019)

Supervisor of the Data Science Course Program (01.2018 – 09.2019) First-Year Academic Liaison for BSc in Data Science (10.2017 – 09.2019)

Assistant Professor (04.2012 – 12.2017)

Teaching and Research Assistant (09.2008 – 02.2012)

04.2018 - 08.2019 Department of Stochastic Methods, Systems Research Institute, Polish Academy of Sciences,

Warsaw, Poland

Associate Professor (04.2018 – 08.2019) [currently on long-term leave]

Assistant Professor (02.2012 – 03.2018) Research Assistant (07.2008 – 01.2012)

## 4 Short-term Research Visits and Casual Employment

07.2014 - 07.2019 Data Science Retreat, Berlin, Germany

Python, R and Data Science Trainer and Mentor (19 batches)

07.2017 - 08.2017 Deakin University, Melbourne, VIC, Australia

School of Information Technology

Visiting Academic

Supported by the SEBE Researcher in Residence Program 2017, Deakin University

04.2015 - 06.2015 IRAFM, University of Ostrava, Czechia

Visiting Academic

Supported by ESF EU, agreement UDA-POKL.04.01.01-00-051/10-00

03.2013 - 06.2013 Slovak University of Technology in Bratislava, Slovakia

Visiting Academic

Supported by ESF EU, agreement UDA-POKL.04.01.01-00-051/10-00

# 5 ACADEMIC ACTIVITIES

## 5.1 RESEARCH PROJECTS

- 1. Chief Investigator: Australian Research Council, 2021 ARC Discovery Project DP210100227, Beyond black-box models: Interaction in eXplainable Artificial Intelligence, Deakin University, Australia (other CIs: Gleb Beliakov–lead and Simon James), 2021
- 2. Partner Investigator: The Czech Science Foundation (GAČR), research project 18-06915S, *New approaches to aggregation operators in analysis and processing of data*, University of Olomouc, Czechia (Lead CI: Radomír Halaš), 2018 (36 months)
- 3. Lead Chief Investigator: National Science Centre, Poland, research project NCN Sonata 2014/13/D/HS4/01700, Construction and analysis of methods of information resources producers' quality management, Systems Research Institute, Polish Academy of Sciences (PIs: Maciej Bartoszuk, Anna Cena), 2015 (30 months)

#### 5.2 SCHOLARSHIPS AND AWARDS

- 1. Ministry of Education and Science, Poland, award for significant achievements in teaching: design and implementation of a new innovative course of study Master of Data Science at the Faculty of Mathematics and Information Science, Warsaw University of Technology, 2022 (team)
- 2. Warsaw University of Technology best paper award (3 papers), 2020
- 3. Warsaw University of Technology award for excellence in research, 2020 (individual, 1st degree)
- 4. Golden Chalk for teaching excellence, Faculty of Mathematics and Information Science, Warsaw University of Technology, 2019 (individual, 2nd degree, i.e., silver)
- 5. Warsaw University of Technology award for excellence in teaching, 2017 (with M. Bartoszuk and A. Cena, 3rd degree)
- 6. Ministry of Science and Higher Education, Poland, scholarship for young researchers, 2015 (36 months)
- 7. Warsaw University of Technology award for excellence in teaching, 2015 (with K. Bobecka-Wesołowska and P. Grzegorzewski, 3rd degree)
- 8. Foundation for Polish Science (FNP), scholarship for young researchers START Program, 2013 (12 months)
- 9. Warsaw University of Technology award for excellence in research, 2012 (with P. Grzegorzewski, 1st degree)
- 10. Warsaw University of Technology award for excellence in research, 2010 (with P. Grzegorzewski, 1st degree)
- 11. Ministry of Science and Higher Education, Poland, scholarship for research achievements for students, 2007

## 5.3 RESEARCH STUDENTS

### Principal supervisor of the following PhD students:

- 1. Jan Lasek (PhD completed 2019; Warsaw University of Technology) New Data-Driven Rating Systems for Association Football
- 2. Maciej Bartoszuk (PhD cum laude completed 2018; Warsaw University of Technology) A Source Code Similarity Assessment System for Functional Programming Languages Based on Machine Learning and Data Aggregation Methods (in Polish)
- 3. Anna Cena (PhD completed 2018; Systems Research Institute, Polish Academy of Sciences) Adaptive Hierarchical Clustering Algorithms Based on Data Aggregation Methods (in Polish)

# Supervisor of the following MSc (by Research) students (Warsaw University of Technology):

- 1. Dawid Stelmach (MSc completed 2020) Video Anomaly Detection as a One-Class-Classification Problem (in Polish)
- 2. Maciej Kurek (MSc completed 2020) Survival Analysis of the Time-to-Score in Sports (in Polish)
- 3. Piotr Wawrzyniak (MSc completed 2019) Boxing Board Results Prediction Based on Neural Networks (in Polish)
- 4. Michał Hadryś (MSc completed 2019) Comparison of models for match outcome prediction (in Polish)
- 5. Piotr Smuda (MSc completed 2018) A Music Recommendation System (in Polish)

- 6. Mateusz Jabłoński (MSc completed 2016) Dynamic Report Generation based on Jupyter Kernels (in Polish)
- 7. Natalia Potocka (MSc completed 2016) Text Clustering Based on String Metrics (in Polish)
- 8. Piotr Frukacz (MSc completed 2015) Mobile Salesman Assistant on Salesforce platform and Google API (in Polish)
- 9. Norbert Ryciak (MSc completed 2015) A Text Topic Modelling-Based Recommender System Utilising the Latent Dirichlet Allocation Method (in Polish)
- 10. Emma Sanderson (MSc completed 2015) New Methods for Calculating Optimal Safety Stocks at Procter&Gamble
- 11. Dawid Janocha (MSc completed 2014) Continuous Integration in Software Engineering (in Polish)

#### 5.4 Publications

#### 5.4.1 RESEARCH MONOGRAPHS AND TEXTBOOKS

- 1. **Gagolewski M.**, Bartoszuk M., Cena A., *Przetwarzanie i analiza danych w języku Python (Data Processing & Analysis in Python)*, Wydawnictwo Naukowe PWN, 2016, 369 pp., ISBN: 978-83-01-18940-2.
- 2. **Gagolewski M.**, *Data fusion: Theory, methods, and applications*, Institute of Computer Science, Polish Academy of Sciences, 2015, 290 pp., ISBN: 978-83-63159-20-7.
- 3. **Gagolewski M.**, Programowanie w języku R. Analiza danych, obliczenia, symulacje (R Programming: Data Analysis, Computing & Simulations), Wydawnictwo Naukowe PWN, 2014, 1st ed. 2014, 509 pp., ISBN: 978-83-01-17461-3; 2nd ed., revised and extended 2016, 550 pp., ISBN: 978-83-01-18939-6.
- 4. Grzegorzewski P., **Gagolewski M.**, Bobecka-Wesołowska K., Wnioskowanie statystyczne z wykorzystaniem środowiska R(Statistical Inference with R), Politechnika Warszawska, 2014, 183 pp., ISBN: 978-83-93-72601-1.

### 5.4.2 EDITED VOLUMES

- 5. Halaš R., **Gagolewski M.**, Mesiar R. (Eds.), New Trends in Aggregation Theory (Advances in Intelligent Systems and Computing **981**), Springer, 2019, 348 pp., ISBN: 978-3-030-19493-2.
- 6. Ferraro M.B., Giordani P., Vantaggi B., **Gagolewski M.**, Gil M.Á., Grzegorzewski P., Hryniewicz O. (Eds.), Soft methods for data science (Advances in Intelligent Systems and Computing **456**), Springer, 2017, 535 pp., ISBN: 978-3-319-42971-7.
- 7. Grzegorzewski P., **Gagolewski M.**, Hryniewicz O., Gil M.Á., (Eds.), Strengthening links between data analysis and soft computing, (Advances in Intelligent Systems and Computing **315**), Springer, 2015, 294 pp., ISBN: 978-3-319-10764-6.

#### 5.4.3 JOURNAL ARTICLES

- 8. **Gagolewski M.**, stringi: Fast and Portable Character String Processing in R, *Journal of Statistical Software*, 2022, in press.
- 9. Beliakov G., **Gagolewski M.**, James S., Reduction of variables and constraints in fitting antibuoyant fuzzy measures to data using linear programming, *Fuzzy Sets and Systems*, 2022, doi:10.1016/j.fss.2022.06.025, in press.
- 10. **Gagolewski M.**, Żogała-Siudem B., Siudem G., Cena A., Ockham's index of citation impact, *Scientometrics* **127**, 2022, pp.2829–2845.
- 11. Geras A., Siudem G., **Gagolewski M.**, Time to vote: Temporal clustering of user activity on Stack Overflow, *Journal of the Association for Information Science and Technology*, 2022, doi:10.1002/asi.24658, in press.
- 12. Cena A., **Gagolewski M.**, Siudem G., Żogała-Siudem B., Validating citation models by proxy indices, *Journal of Informetrics* **16**(2), 2022, pp. 101267.
- 13. Beliakov G., **Gagolewski M.**, James S., Hierarchical data fusion processes involving the Möbius representation of capacities, *Fuzzy Sets and Systems* **433**, 2022, pp. 1–22.
- 14. **Gagolewski M.**, Bartoszuk M., Cena A., Are cluster validity measures (in)valid?, *Information Sciences* **581**, 2021, pp. 620–636.
- 15. **Gagolewski M.**, genieclust: Fast and robust hierarchical clustering, *SoftwareX* **15**, 2021, pp. 100722.
- 16. Bartoszuk M., **Gagolewski M.**, T-norms or t-conorms? How to aggregate similarity degrees for plagiarism detection, *Knowledge-Based Systems* **231**, 2021, pp. 107427.

- 17. Pérez-Fernández R., **Gagolewski M.**, De Baets B., On the aggregation of compositional data, *Information Fusion* **73**, 2021, pp. 103–110.
- 18. Lasek J., **Gagolewski M.**, Interpretable sports team rating models based on the gradient descent algorithm, *International Journal of Forecasting* **37**(3), 2021, pp. 1061–1071.
- 19. Siudem G., Żogała-Siudem B., Cena A., **Gagolewski M.**, Three dimensions of scientific impact, *Proceedings of the National Academy of Sciences of the United States of America (PNAS)* **117**(25), 2020, pp. 13896–13900.
- 20. Bartoszuk M., **Gagolewski M.**, SimilaR: R Code Clone and Plagiarism Detection, R *Journal* **12**(1), 2020, pp. 367–385.
- 21. Cena A., **Gagolewski M.**, Genie+OWA: Robustifying Hierarchical Clustering with OWA-based Linkages, *Information Sciences* **520**, 2020, pp. 324–336.
- 22. **Gagolewski M.**, Pérez-Fernández R., De Baets B., An inherent difficulty in the aggregation of multidimensional data, *IEEE Transactions on Fuzzy Systems* **28**(3), 2020, pp. 602–606.
- 23. Geras A., Siudem G., **Gagolewski M.**, Should we introduce a dislike button for academic papers?, *Journal of the Association for Information Science and Technology* **71**(2), 2020, pp. 221–229.
- 24. Beliakov G., **Gagolewski M.**, James S., DC optimization for constructing discrete Sugeno integrals and learning nonadditive measures, *Optimization* **69**(12), 2020, pp. 2515–2534.
- 25. Beliakov G., **Gagolewski M.**, James S., Robust fitting for the Sugeno integral with respect to general fuzzy measures, *Information Sciences* **514**, 2020, pp. 449–461.
- 26. Coroianu L., Fullér R., **Gagolewski M.**, James S., Constrained Ordered Weighted averaging aggregation with multiple comonotone constraints, *Fuzzy Sets and Systems* **395**, 2020, pp. 21–39.
- 27. Beliakov G., **Gagolewski M.**, James S., Aggregation on ordinal scales with the Sugeno integral for biomedical applications, *Information Sciences* **501**, 2019, pp. 377–387.
- 28. Pérez-Fernández R., De Baets B., **Gagolewski M.**, A taxonomy of monotonicity properties for the aggregation of multidimensional data, *Information Fusion* **52**, 2019, pp. 322–334.
- 29. **Gagolewski M.**, James S., Beliakov G., Supervised learning to aggregate data with the Sugeno integral, *IEEE Transactions on Fuzzy Systems* **27**(4), 2019, pp. 810–815.
- 30. Coroianu L., **Gagolewski M.**, Grzegorzewski P., Piecewise linear approximation of fuzzy numbers: Algorithms, arithmetic operations and stability of characteristics, *Soft Computing* **23**(19), 2019, pp. 9491–9505.
- 31. Lasek J., **Gagolewski M.**, The efficacy of league formats in ranking teams, *Statistical Modelling* **18**(5–6), 2018, pp. 411–435.
- 32. Beliakov G., **Gagolewski M.**, James S., Pace S., Pastorello N., Thilliez E., Vasa R., Measuring traffic congestion: An approach based on learning weighted inequality, spread and aggregation indices from comparison data, *Applied Soft Computing* **67**, 2018, pp. 910–919.
- 33. **Gagolewski M.**, Penalty-based aggregation of multidimensional data, *Fuzzy Sets and Systems* **325**, 2017, pp. 4–20.
- 34. Beliakov G., **Gagolewski M.**, James S., Penalty-based and other representations of economic inequality, *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems* **24**(Suppl. 1), 2016, pp. 1–23.
- 35. **Gagolewski M.**, Bartoszuk M., Cena A., Genie: A new, fast, and outlier-resistant hierarchical clustering algorithm, *Information Sciences* **363**, 2016, pp. 8–23.
- 36. Mesiar R., **Gagolewski M.**, H-index and other Sugeno integrals: Some defects and their compensation, *IEEE Transactions on Fuzzy Systems* **24**(6), 2016, pp. 1668–1672.
- 37. Lasek J., Szlavik Z., **Gagolewski M.**, Bhulai S., How to improve a team's position in the FIFA ranking A simulation study, *Journal of Applied Statistics* **43**(7), 2016, pp. 1349–1368.
- 38. Żogała-Siudem B., Siudem G., Cena A., **Gagolewski M.**, Agent-based model for the h-index Exact solution, European Physical Journal B **89**:21, 2016.
- 39. **Gagolewski M.**, Spread measures and their relation to aggregation functions, *European Journal of Operational Research* **241**(2), 2015, pp. 469–477.
- 40. Cena A., **Gagolewski M.**, Mesiar R., Problems and challenges of information resources producers' clustering, *Journal of Informetrics* **9**(2), 2015, pp. 273–284.

- 41. Cena A., **Gagolewski M.**, OM3: Ordered maxitive, minitive, and modular aggregation operators axiomatic and probabilistic properties in an arity-monotonic setting, *Fuzzy Sets and Systems* **264**, 2015, pp. 138–159.
- 42. **Gagolewski M.**, Mesiar R., Monotone measures and universal integrals in a uniform framework for the scientific impact assessment problem, *Information Sciences* **263**, 2014, pp. 166–174.
- 43. Gagolewski M., Scientific impact assessment cannot be fair, Journal of Informetrics 7(4), 2013, pp. 792–802.
- 44. Coroianu L., **Gagolewski M.**, Grzegorzewski P., Nearest piecewise linear approximation of fuzzy numbers, *Fuzzy Sets and Systems* **233**, 2013, pp. 26–51.
- 45. **Gagolewski M.**, On the relationship between symmetric maxitive, minitive, and modular aggregation operators, *Information Sciences* **211**, 2013, pp. 170–180.
- 46. **Gagolewski M.**, Mesiar R., Aggregating different paper quality measures with a generalized h-index, *Journal of Informetrics* **6**(4), 2012, pp. 566–579.
- 47. **Gagolewski M.**, Grzegorzewski P., Possibilistic analysis of arity-monotonic aggregation operators and its relation to bibliometric impact assessment of individuals, *International Journal of Approximate Reasoning* **52**(9), 2011, pp. 1312–1324.
- 48. **Gagolewski M.**, Bibliometric impact assessment with R and the CITAN package, *Journal of Informetrics* **5**(4), 2011, pp. 678–692.
- 49. **Gagolewski M.**, Grzegorzewski P., A geometric approach to the construction of scientific impact indices, *Scientometrics* **81**(3), 2009, pp. 617–634.
- 50. Rowiński T., **Gagolewski M.**, Preferencje i postawy wobec pomocy online, *Studia Psychologica UKSW* **7**, 2007, pp. 195–210.

#### 5.4.4 Papers in Edited Volumes and Proceedings

- 51. Coroianu L., **Gagolewski M.**, Penalty-based data aggregation in real normed vector spaces, In: Halaš R. et al. (Eds.), New Trends in Aggregation Theory (Advances in Intelligent Systems and Computing **981**), Springer, 2019, pp. 160–171.
- 52. Beliakov G., **Gagolewski M.**, James S., Least median of squares (LMS) and least trimmed squares (LTS) fitting for the weighted arithmetic mean, In: Medina J. et al. (Eds.), Information Processing and Management of Uncertainty in Knowledge-Based Systems. Theory and Foundation (Communications in Computer and Information Science **854**), Springer, 2018, pp. 367–378.
- 53. **Gagolewski M.**, James S., Fitting symmetric fuzzy measures for discrete Sugeno integration, In: Kacprzyk J. et al. (Eds.), Advances in Fuzzy Logic and Technology (Advances in Intelligent Systems and Computing **642**), Springer, 2018, pp. 104–116.
- 54. Bartoszuk M., **Gagolewski M.**, Binary aggregation functions in software plagiarism detection, In: Proc. FUZZ-IEEE'17, 2017, 8015582.
- 55. Cena A., **Gagolewski M.**, OWA-based linkage and the Genie correction for hierarchical clustering, In: Proc. FUZZ-IEEE'17, 2017, 8015652.
- 56. **Gagolewski M.**, Cena A., Bartoszuk M., Hierarchical clustering via penalty-based aggregation and the Genie approach, In: Torra V. et al. (Eds.), Modeling Decisions for Artificial Intelligence (Lecture Notes in Artificial Intelligence 9880), Springer, 2016, pp. 191–202.
- 57. Bartoszuk M., Beliakov G., **Gagolewski M.**, James S., Fitting aggregation functions to data: Part I Linearization and regularization, In: Carvalho J.P. et al. (Eds.), Information Processing and Management of Uncertainty in Knowledge-Based Systems, Part II (Communications in Computer and Information Science **611**), Springer, 2016, pp. 767–779.
- 58. Bartoszuk M., Beliakov G., **Gagolewski M.**, James S., Fitting aggregation functions to data: Part II Idempotization, In: Carvalho J.P. et al. (Eds.), Information Processing and Management of Uncertainty in Knowledge-Based Systems, Part II (Communications in Computer and Information Science **611**), Springer, 2016, pp. 780–789.
- 59. Cena A., **Gagolewski M.**, Fuzzy k-minpen clustering and k-nearest-minpen classification procedures incorporating generic distance-based penalty minimizers, In: Carvalho J.P. et al. (Eds.), Information Processing and Management of Uncertainty in Knowledge-Based Systems, Part II (Communications in Computer and Information Science **611**), Springer, 2016, pp. 445–456.
- 60. Lasek J., **Gagolewski M.**, The winning solution to the AAIA'15 Data Mining Competition: Tagging firefighter activities at a fire scene, In: Ganzha M. et al. (Eds.), Proc. FedCSIS'15, IEEE, 2015, pp. 375–380.

- 61. Bartoszuk M., **Gagolewski M.**, Detecting similarity of R functions via a fusion of multiple heuristic methods, In: Alonso J.M. et al. (Eds.), *Proc. IFSA-EUSFLAT* 2015, Atlantis Press, 2015, pp. 484–491.
- 62. **Gagolewski M.**, Normalized  $WD_pWAM$  and  $WD_pOWA$  spread measures, In: Alonso J.M. et al. (Eds.), Proc. IFSA-EUSFLAT 2015, Atlantis Press, 2015, pp. 210–216.
- 63. Cena A., **Gagolewski M.**, *A k-means-like algorithm for informetric data clustering*, In: Alonso J.M. et al. (Eds.), *Proc. IFSA-EUSFLAT* 2015, Atlantis Press, 2015, pp. 536–543.
- 64. **Gagolewski M.**, Lasek J., Learning experts' preferences from informetric data, In: Alonso J.M. et al. (Eds.), Proc. IFSA-EUSFLAT 2015, Atlantis Press, 2015, pp. 484–491.
- 65. **Gagolewski M.**, Some issues in aggregation of multidimensional data, In: Baczyński M., De Baets B., Mesiar R. (Eds.), Proc. 8th International Summer School on Aggregation Operators (AGOP 2015), University of Silesia, ISBN:978-83-8012-519-3, 2015, pp. 127–132.
- 66. Cena A., **Gagolewski M.**, Aggregation and soft clustering of informetric data, In: Baczyński M., De Baets B., Mesiar R. (Eds.), Proc. 8th International Summer School on Aggregation Operators (AGOP 2015), University of Silesia, ISBN:978-83-8012-519-3, 2015, pp. 79–84.
- 67. **Gagolewski M.**, Lasek J., The use of fuzzy relations in the assessment of information resources producers' performance, In: Filev D. et al. (Eds.), Proc. 7th IEEE International Conference Intelligent Systems IS'2014, Vol. 2: Tools, Architectures, Systems, Applications (Advances in Intelligent Systems and Computing 323), Springer, 2015, pp. 289–300.
- 68. **Gagolewski M.**, Sugeno integral-based confidence intervals for the theoretical h-index, In: Grzegorzewski P. et al. (Eds.), Strengthening Links Between Data Analysis and Soft Computing (Advances in Intelligent Systems and Computing **315**), Springer, 2015, pp. 233–240.
- 69. Lasek J., **Gagolewski M.**, Estimation of tournament metrics for association football league formats, In: Selected problems in information technologies (Proc. ITRIA'15 vol. 2), Institute of Computer Science, Polish Academy of Sciences, 2015, pp. 67–78.
- 70. Cena A., **Gagolewski M.**, *Clustering and aggregation of informetric data sets*, In: *Computational methods in data analysis (Proc. ITRIA*'15 vol. 1), Institute of Computer Science, Polish Academy of Sciences, 2015, pp. 5–26.
- 71. Bartoszuk M., **Gagolewski M.**, A fuzzy R code similarity detection algorithm, In: Laurent A. et al. (Eds.), Information Processing and Management of Uncertainty in Knowledge-Based Systems, Part III (Communications in Computer and Information Science **444**), Springer, 2014, pp. 21–30.
- 72. Coroianu L., **Gagolewski M.**, Grzegorzewski P., Adabitabar Firozja M., Houlari T., Piecewise linear approximation of fuzzy numbers preserving the support and core, In: Laurent A. et al. (Eds.), Information Processing and Management of Uncertainty in Knowledge-Based Systems, Part II (Communications in Computer and Information Science **443**), Springer, 2014, pp. 244–254.
- 73. Cena A., **Gagolewski M.**, OM3: Ordered maxitive, minitive, and modular aggregation operators Part I: Axiomatic analysis under arity-dependence, In: Bustince H. et al. (Eds.), Aggregation Functions in Theory and in Practise (Advances in Intelligent Systems and Computing **228**), Springer, 2013, pp. 93–103.
- 74. Cena A., **Gagolewski M.**, OM3: Ordered maxitive, minitive, and modular aggregation operators Part II: A simulation study, In: Bustince H. et al. (Eds.), Aggregation Functions in Theory and in Practise (Advances in Intelligent Systems and Computing **228**), Springer, 2013, pp. 105–115.
- 75. **Gagolewski M.**, Statistical hypothesis test for the difference between Hirsch indices of two Pareto-distributed random samples, In: Kruse R. et al. (Eds.), Synergies of Soft Computing and Statistics for Intelligent Data Analysis (Advances in Intelligent Systems and Computing 190), Springer, 2013, pp. 359–367.
- 76. **Gagolewski M.**, Dębski M., Nowakiewicz M., Efficient algorithm for computing certain graph-based monotone integrals: The  $l_p$ -indices, In: Mesiar R., Bacigal T. (Eds.), Proc. Uncertainty Modelling, 2013, STU Bratislava, ISBN:978-80-227-4067-8, 2013, pp. 17–23.
- 77. **Gagolewski M.**, On the relation between effort-dominating and symmetric minitive aggregation operators, In: Greco S. et al. (Eds.), Advances in Computational Intelligence, Vol. III (Communications in Computer and Information Science **299**), Springer, 2012, pp. 276–285.
- 78. Rowiński T., **Gagolewski M.**, *Internet a kryzys*, In: Jankowska M., Starzomska M. (Eds.), *Kryzys: Pułapka czy szansa*?, WN Akapit, 2011, pp. 211–224.

- 79. **Gagolewski M.**, Grzegorzewski P., Axiomatic characterizations of (quasi-) L-statistics and S-statistics and the Producer Assessment Problem, In: Galichet S. et al. (Eds.), Proc. 7th conf. European Society for Fuzzy Logic and Technology EUSFLAT-LFA 2011, Atlantis Press, 2011, pp. 53–58.
- 80. **Gagolewski M.**, Grzegorzewski P., *Metody i problemy naukometrii*, In: Rowiński T., Tadeusiewicz R. (Eds.), *Psychologia i informatyka. Synergia i kontradykcje*, Wyd. UKSW, Warszawa, 2010, pp. 103–125.
- 81. **Gagolewski M.**, Grzegorzewski P., S-Statistics and their basic properties, In: Borgelt C. et al. (Eds.), Combining Soft Computing and Statistical Methods in Data Analysis (Advances in Intelligent and Soft Computing 77), Springer, 2010, pp. 281–288.
- 82. **Gagolewski M.**, Grzegorzewski P., Arity-monotonic extended aggregation operators, In: Hüllermeier E., Kruse R., Hoffmann F. (Eds.), Information Processing and Management of Uncertainty in Knowledge-Based Systems (Communications in Computer and Information Science **80**), Springer, 2010, pp. 693–702.
- 83. **Gagolewski M.**, Grzegorzewski P., *O pewnym uogólnieniu indeksu Hirscha*, In: Kawalec P., Lipski P. (Eds.), *Kadry i infrastruktura nowoczesnej nauki: teoria i praktyka*, Vol. II, 1st International Conference on "Scientific Management", Lublin, Poland, 20–22.11.2009, pp. 15–29.
- 84. **Gagolewski M.**, Grzegorzewski P., Possible and necessary h-indices, In: Proc. IFSA World Congress and EUSFLAT Conference (IFSA/EUSFLAT 2009), Lisbon, Portugal, ISBN:978-989-95079-6-8, 2009, pp. 1691–1695.

### 5.5 Talks (Conferences, Seminars, etc.)

#### 5.5.1 Invited Plenary Lectures and Tutorials

- 1. Clustering and aggregation, 16th International Conference on Fuzzy Set Theory and Applications FSTA 2022, Liptovský Ján, Slovakia, 04.02.2022
- 2. Clustering on MSTs, International Student Conference on Applied Mathematics and Informatics ISCAMI'18, Malenovice, Czechia, 10–13.05.2018
- 3. Stochastic properties of and agent-based models for the Hirsch index and other discrete Sugeno integrals, 14th International Conference on Fuzzy Set Theory and Applications FSTA 2018, Liptovský Ján, Slovakia, 02.02.2018
- 4. Aggregation of multidimensional data: A review, 9th International Summer School on Aggregation Operators AGOP 2017, Skövde, Sweden, 21.06.2017
- 5. Penalty-based fusion of complex data, computational aspects, and applications, International Symposium on Aggregation and Structures ISAS 2016, University of Luxembourg, 06.07.2016

### 5.5.2 OTHER INVITED

- 6. *R package* stringi, Text Analysis Developers' Workshop 2018, New York University, New York, NY, US, 20–21.04.2018
- 7. Algorytmy analizy skupień oparte na MST, Studencka konferencja zastosowań matematyki DwuMIan'18, Warsaw, Poland, 24.03.2018
- 8. *R package* stringi, Text Analysis R Developers' Workshop 2017, London School of Economics, London, England, 21–22.04.2017
- 9. Genie: A new, fast, and outlier-resistant hierarchical clustering algorithm and its R interface, European R Users Meeting, Poznań, Poland, 14.10.2016
- 10. Can the scientific assessment process be fair?, Workshop on Research Evaluation, Free University of Bozen-Bolzano, Italy, 10.05.2013

# 5.5.3 SEMINARS

- 11. Aggregation of multidimensional data: A review, School of Information Technology, Deakin University, Melbourne-Burwood, VIC, Australia, 21.07.2017
- 12. Genie: Nowy, szybki i odporny algorytm analizy skupień, Seminarium IBS PAN, Warszawa, Poland, 23.05.2017
- 13. Agregacja danych: Teoria, metody i zastosowania, Wykład dla słuchaczy Studiów Doktoranckich IBS PAN, Warszawa, Poland, 05.03.2016

- 14.  $^(R/ICU/i18n/regex)+$$ , Seminarium Matematyczne Metody Informatyki, Instytut Matematyki, University of Silesia, Katowice, Poland, 20.04.2015
- 15. Data aggregation from an algorithmic perspective, IRAFM Seminar, University of Ostrava, Czechia, 04.06.2015
- 16. Indeks Hirscha i okolice, Seminarium CeON, ICM UW, Warsaw, Poland, 12.03.2014
- 17. Scientific impact assessment State of the art: Agregačné funkcie: teória a aplikácie (Aggregation functions: theory and applications), Seminár z modelovania neurčitosti, Katedra matematiky a deskriptívnej geometrie, SvF STU, Bratislava, Slovakia, 17.04.2013

#### 5.5.4 CONFERENCE TALKS

- 18. Penalty-based data aggregation in real normed vector spaces, 10th International Summer School on Aggregation Operators (AGOP), Olomouc, Czechia, 1–4.07.2019
- 19. Fitting symmetric fuzzy measures for discrete Sugeno integration, 10th International Conference of EUSFLAT, Warsaw, Poland, 11–15.09.2017
- 20. Binary aggregation functions in software plagiarism detection, IEEE International Conference on Fuzzy Systems (IEEE FUZZ'17), Naples, Italy, 9–12.07.2017
- 21. Binary aggregation functions in software plagiarism detection, 3rd International Symposium on Fuzzy Sets and Uncertainty Modeling (ISFS 2017), Rzeszów, Poland, 19–20.05.2017
- 22. Hierarchical clustering via penalty-based aggregation and the Genie approach, 13th International Conference on Modeling Decisions for Artificial Intelligence (MDAI), Sant Julià de Lòria, Andorra, 20.09.2016
- 23. Fitting aggregation functions to data: Part I Linearization and regularization, 16th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems (IPMU), Eindhoven, The Netherlands, 23.06.2016
- 24. Some issues in aggregation of multidimensional data, 8th International Summer School on Aggregation Operators (AGOP), Katowice, Poland, 07.07.2015
- 25. Normalized  $WD_pWAM$  and  $WD_pOWA$  spread measures, International Conference of IFSA/EUSFLAT 2015, Gijon, Spain, 02.07.2015
- 26. Sugeno integral-based confidence intervals for the theoretical h-index, 7th International Conference on Soft Methods in Probability and Statistics (SMPS), Warsaw, Poland, 24.09.2014
- 27. OM3: Ordered maxitive, minitive, and modular aggregation operators Part I: Axiomatic analysis under arity-dependence, 7th International Summer School on Aggregation Operators (AGOP), Pamplona, Spain, 16–19.07.2013
- 28. Statistical hypothesis test for the difference between Hirsch indices of two Pareto-distributed random samples, 6th International Conference on Soft Methods in Probability and Statistics (SMPS), Konstanz, Germany, 04–06.10.2012
- 29. On the relation between effort-dominating and symmetric minitive aggregation operators, 14th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems (IPMU), Catania, Italy, 09–13.07.2012
- 30. Porównanie wybranych estymatorów teoretycznego indeksu Hirscha, XXXVII Konferencja Statystyka Matematyczna, Wisła, Poland, 05–09.12.2011
- 31. Axiomatic characterizations of (quasi-) L-statistics and S-statistics and the Producer Assessment Problem, 7th International Conference of EUSFLAT/LFA, Aix-Les-Bains, France, 18–22.07.2011
- 32. Podstawowe właściwości S-statystyk, XXXVI Konferencja Statystyka Matematyczna, Wisła, Poland, 06–10.12.2010
- 33. S-Statistics and their basic properties, 5th International Conference on Soft Methods in Probability and Statistics (SMPS), Oviedo, Spain, 28.09–01.10.2010
- 34. Arity-monotonic extended aggregation operators, 13th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems (IPMU), Dortmund, Germany, 28.06–02.07.2010
- 35. Uogólniony indeks Hirscha a dwupróbkowe testy dla rodziny rozkładów Pareto II rodzaju, XXXV Konferencja Statystyka Matematyczna, Wisła, Poland, 07–11.12.2009
- 36. O pewnym uogólnieniu indeksu Hirscha, 1st International Conference on "Scientific Management", Lublin, Poland, 20–22.11.2009
- 37. Possible and necessary h-indices, 6th International Conference of IFSA/EUSFLAT, Lisbon, Portugal, 20–24.07.2009

## 6 Reviewing and Other Academic Activities

- Area Editor (Aggregation Functions and Data Science) in Fuzzy Sets and Systems (2021–)
- Member of the Research Council, Systems Research Institute, Polish Academy of Sciences (2011–2019)
- Member of the Faculty Council, Faculty of Mathematics and Information Science, Warsaw University of Technology (2017–2019)
- Scientific program committee member/chair for:
  - 1. 11th International Summer School on Aggregation Operators (AGOP 2021), Bratislava, Slovakia Programme Chair
  - 2. 19th World Congress of the International Fuzzy Systems Association and 12th Conference of the European Society for Fuzzy Logic and Technology (IFSA/EUSFLAT 2021), Bratislava, Slovakia
  - 3. 10th International Summer School on Aggregation Operators (AGOP 2019), Olomouc, Czechia
  - 4. 11th Conference of the European Society for Fuzzy Logic and Technology (EUSFLAT 2019), Prague, Czechia
  - 5. 2nd International Symposium on Aggregation and Structures (ISAS 2018), Valladolid, Spain
  - 6. 3rd Conference on Information Technology, Systems Research and Computational Physics (ITSRCP'18), Cracow, Poland
  - 7. 17th World Congress of International Fuzzy Systems Association and 9th International Conference on Soft Computing and Intelligent Systems (IFSA/SCIS 2017), Otsu, Japan
  - 8. 1st International Symposium on Aggregation and Structures (ISAS 2016), Luxembourg
  - 9. 16th World Congress of the International Fuzzy Systems Association and 9th Conference of the European Society for Fuzzy Logic and Technology (IFSA/EUSFLAT 2015), Gijon, Spain

## · Special session organiser at:

- 1. IEEE World Congress on Computational Intelligence (WCCI 2020), Glasgow (UK) FUZZ-IEEE-6 Special Session Aggregation Structures: New Trends and Applications
- 2. 10th Conference of the European Society for Fuzzy Logic and Technology (EUSFLAT 2017), Warsaw, Poland Special Session Algorithms for Data Aggregation and Fusion
- 3. 16th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems (IPMU 2016), Eindhoven, The Netherlands Special Session Computational Aspects of Data Aggregation and Complex Data Fusion

# • Organising committee member/chair for:

- 1. 10th International Summer School on Aggregation Operators (AGOP 2019), Olomouc, Czechia Conference Chair
- 2. 10th Conference of the European Society for Fuzzy Logic and Technology (EUSFLAT 2017), Warsaw, Poland Stream on Data Analysis Coordinator
- 3. 8th International Conference Soft Methods in Probability and Statistics (SMPS 2016), Rome, Italy
- 4. 8th International Summer School on Aggregation Operators (AGOP 2015), Katowice, Poland
- 5. 7th International Conference Soft Methods in Probability and Statistics SMPS 2014, Warsaw, Poland
- 6. 37th Conference Statystyka Matematyczna Wisła 2011, Poland

## • Reviewer of research project proposals for:

1. Fondo Nacional de Desarrollo Científico y Tecnológico (FONDECYT; The National Fund for Scientific and Technological Development), Chile; 2017 (1)

# • Reviewer of PhD theses:

- 1. Jana Borzová, PhD; Faculty of Science, P. J. Šafárik University in Košice, Slovakia; 2018
- 2. Hossein Yazdani, MSc; Faculty of Electronics, Wrocław University of Science and Technology, Poland; 2018 and 2020 (re-review)
- Peer-reviewer for the following international journals (250 reviews written):

- 1. ACM Transactions on Mathematical Software (4)
- 2. Advances in Statistical Analysis (German Statistical Society) (3)
- 3. Afrika Mathematica (1)
- 4. Computational and Applied Mathematics (1)
- 5. Control and Cybernetics (1)
- 6. Data Mining and Knowledge Discovery (4)
- 7. Demonstratio Mathematica (1)
- 8. European Journal of Operational Research (13)
- 9. Foundations of Computing and Decision Sciences (1)
- 10. Fundamenta Informaticae (1)
- 11. Fuzzy Optimization and Decision Making (3)
- 12. Fuzzy Sets and Systems (33)
- 13. Group Decision and Negotiation (1)
- 14. IEEE Access (1)
- 15. IEEE Transactions on Emerging Topics in Computational Intelligence (2)
- 16. IEEE Transactions on Fuzzy Systems (55)
- 17. Information Fusion (7)
- 18. Information Sciences (38)
- 19. Intelligent Systems with Applications (2)
- 20. International Journal of Applied Mathematics and Computer Science (3)
- 21. International Journal of Approximate Reasoning (4)
- 22. International Journal of Computational Intelligence Systems (4)
- 23. International Journal of Forecasting (1)
- 24. International Journal of Sports Science and Coaching (5)
- 25. International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems (5)
- 26. International Transactions in Operational Research (1)
- 27. Journal of Applied Analysis (1)
- 28. Journal of Engineering Education (1)
- 29. Journal of Informetrics (5)
- 30. Journal of Intelligent and Fuzzy Systems (3)
- 31. Journal of Open Source Software (2)
- 32. Journal of the Association for Information Science and Technology (7)
- 33. *Knowledge-Based Systems* (3)
- 34. Mathematical Problems in Engineering (1)
- 35. Pervasive and Mobile Computing (1)
- 36. Quantitative Science Studies (1)
- 37. R Journal (2)
- 38. RUDN Journal of Mathematics, Information Sciences and Physics (1)
- 39. Scientometrics (21)
- 40. Social Sciences and Humanities Open (1)
- 41. Soft Computing (3)
- 42. Statistical Modelling (2)

and international conferences (57 reviews written; IFSA/EUSFLAT 2009, IPMU 2010, IPMU 2012, SMPS 2014, EUSFLAT 2015, IPMU 2016, ISAS 2016, SMPS 2016, EUSFLAT 2017, IFSA/SCIS 2017, EUSFLAT 2019, FUZZ-IEEE 2020, IPMU 2020, AGOP 2021, FUZZ-IEEE 2021, IFSA/EUSFLAT 2021, FUZZ-IEEE 2022)

# 7 TEACHING-RELATED ACTIVITIES

### 7.1 DEAKIN UNIVERSITY, SCHOOL OF IT

- Deputy Course Director for Bachelor of Data Science (2022-...)
- Member of the Course Leadership Team for the Bachelor of Artificial Intelligence (2020-..)

- Academic mentor of 10 industry capstone projects at Deakin University providing mentoring and assessment of students (2020–2021)
- Units:
  - SIT220 Data Wrangling (New Unit Developer and Unit Chair in 2022.T1)
  - SIT114 Introduction to Artificial Intelligence (New Unit Developer and Unit Chair in 2020.T1, 2021.T1, and 2022.T1)
  - SIT752 Introduction to IT Professional Practice (Unit Chair in 2019.T3 and 2020.T1)
  - SIT172 Programming for Engineers (Unit Campus Coordinator, 2020.T2 and 2021.T2)

# 7.2 FACULTY OF MATHEMATICS AND INFORMATION SCIENCE, WUT

- Supervisor of the Data Science Program (a.k.a. Dean's Proxy for Data Science Studies) and First-Year Academic Liaison (2018 2019); key responsibilities:
  - managing, assessing, and synchronising all data science programs,
  - handling undergraduate and graduate students' admissions,
  - coordinating students' transfers, providing advice regarding degree requirements and exchange programs (such as within the Erasmus framework),
  - counselling students with regards to their academic goals and how to meet them
- (Founding) Deputy Program Director for BSc and MSc in Data Science (2016 2019); key responsibilities: moulding, developing, and implementing a new degree in Data Science.
- Program Leadership Team Member for BSc in Mathematics and Data Analysis, Faculty of Mathematics and Information Science, Warsaw University of Technology (2019–)
- Initiator, supervisor, and mentor of the *Data Science* Student Club (2014 2019)
- Units:

| 2018-2019 | Structured Data Processing (Unit Developer&Chair)                      |  |
|-----------|--|--|
| 2017-2019 | Introduction to Programming and Data Processing (Unit Developer&Chair) |  |
| 2016-2019 | Data Processing in R and Python (Unit Developer&Chair)                 |  |
| 2015-2019 | Data Processing and Analysis in Python (Unit Developer&Chair)          |  |
| 2012-2019 | Programming and Data Analysis in R (Unit Developer&Chair)              |  |
| 2010-2016 | Algorithms and Introduction to Programming (Unit Developer&Chair)      |  |
| 2014      | Advanced R Programming (Unit Developer&Chair)                          |  |
| 2009-2012 | Mathematical Statistics I (Tutor)                                      |  |
| 2008-2013 | Computer Statistics (Tutor)  |  |
| 2010-2011 | Programming in x86 Assembler (Tutor)                                   |  |
| 2008-2011 | Algorithms and Data Structures II (Tutor)                              |  |
| 2007-2011 | Object-oriented Programming in C++ (Tutor)                             |  |
|           |  |  |

• Principal supervisor of 16 BSc and 11 MSc (by research) students in Mathematics and Computer Science.

# 7.3 CENTRE FOR ADVANCED STUDIES, WARSAW UNIVERSITY OF TECHNOLOGY

- Units:
  - Python for Data Processing and Analysis (Unit Developer&Chair in 2018)

# 7.4 Institute of Computer Science, Polish Academy of Sciences

Units:

- Advanced Data Analysis Software Development in R (e-learning; Unit Developer&Chair; 3 editions between 2014 and 2015)

### 7.5 Warsaw School of Information Technology

### • Units:

2009–2011 Statistical Decision Support Methods (Tutor) 2008–2010 Probability and Statistics (Tutor)

## 7.6 SHORT COURSES AND OTHER TEACHING ACTIVITIES

#### • Units:

| 07.2019 | NumPy, Pandas, TensorFlow, Advanced Python                  | Data Science Retreat, Berlin (Batch 19) |
|---------|---|---|
| 04.2019 | NumPy, Pandas, TensorFlow, Advanced Python                  | Data Science Retreat, Berlin (Batch 18) |
| 01.2019 | NumPy, Pandas, TensorFlow, Advanced Python                  | Data Science Retreat, Berlin (Batch 17) |
| 09.2018 | NumPy, Pandas, TensorFlow, Advanced Python                  | Data Science Retreat, Berlin (Batch 16) |
| 07.2018 | NumPy, Pandas, TensorFlow, Advanced Python                  | Data Science Retreat, Berlin (Batch 15) |
| 05.2018 | NumPy, Pandas, TensorFlow, Advanced Python                  | Data Science Retreat, Berlin (Batch 14) |
| 02.2018 | NumPy, Pandas, TensorFlow, Advanced Python                  | Data Science Retreat, Berlin (Batch 13) |
| 09.2017 | NumPy, Pandas, TensorFlow, Advanced Python                  | Data Science Retreat, Berlin (Batch 12) |
| 06.2017 | NumPy, Pandas, TensorFlow, Advanced Python                  | Data Science Retreat, Berlin (Batch 11) |
| 05.2017 | NumPy, Pandas, TensorFlow, Advanced Python                  | Data Science Retreat, Berlin (Batch 10) |
| 01.2017 | NumPy, Pandas, TensorFlow, Advanced Python                  | Data Science Retreat, Berlin (Batch 09) |
| 09.2016 | Advanced Python, Data Structures and Algorithms for Data    | Data Science Retreat, Berlin (Batch 08) |
|         | Science   |   |
| 05.2016 | Deep dive into R, Speeding up R and Python, Data Structures | Data Science Retreat, Berlin (Batch 07) |
|         | and Algorithms for Data Science                             |   |
| 02.2016 | Speeding up R and Python, Data Structures and Algorithms    | Data Science Retreat, Berlin (Batch 06) |
|         | for Data Science  |   |
| 10.2015 | Deep dive into R, Speeding up R and Python                  | Data Science Retreat, Berlin (Batch 05) |
| 06.2015 | Intro to R, Advanced R, Rcpp                                | Data Science Retreat, Berlin (Batch 04) |
| 06.2015 | String processing, Good Development Practices in R, Rcpp    | GfK, Berlin                             |
| 06.2015 | Intro to R for Researchers                                  | IRAFM, Ostrava                          |
| 02.2015 | Intro to R, Advanced R, Rcpp                                | Data Science Retreat, Berlin (Batch 03) |
| 08.2014 | Intro to R, Advanced R                                      | Data Science Retreat, Berlin (Batch 02) |
| 07.2014 | Rcpp  | Data Science Retreat, Berlin (Batch 01) |
| 02.2014 | Introduction to Data Analysis with R                        | Business Analytics, WUT                 |
| 10.2013 | Introduction to R   | Business Analytics, WUT                 |
|         |   |   |

# 8 OPEN SOURCE SOFTWARE DEVELOPMENT AND INDUSTRY ENGAGEMENT

Author and maintainer of free (libre) and open source software (see my GitHub profile at https://github.com/gagolews/):

- 1. *genieclust* (https://genieclust.gagolewski.com/) Python and R implementation of my fast and robust *Genie* hierarchical clustering algorithm
- 2. *stringi* (https://stringi.gagolewski.com/) text/natural language processing; one of the most often downloaded R packages (over 48,000,000 downloads)
- 3. *stringx* (https://stringx.gagolewski.com/) drop-in replacements for base R string functions powered by *stringi*

- 4. realtest (https://realtest.gagolewski.com/) a framework for unit testing for realistic minimalists, where we distinguish between expected, acceptable, current, fallback, ideal, or regressive behaviour; it can also be used for monitoring other software projects for changes
- 5. *genie* (http://cran.r-project.org/package=genie) the reference R implementation of the *Genie* algorithm, now superseded by *genieclust*
- 6. *SimilaR* (http://cran.r-project.org/package=SimilaR) code clones and plagiarism detection within R code chunks
- 7. FuzzyNumbers (http://cran.r-project.org/package=FuzzyNumbers) R package implementing interval and fuzzy numbers arithmetic, and various piecewise linear approximation algorithms
- 8. agop (http://cran.r-project.org/package=agop) aggregation operators in R
- 9. CITAN (http://cran.r-project.org/package=CITAN) citation analysis toolpack for R
- 10. *TurtleGraphics* (http://cran.r-project.org/package=TurtleGraphics) learn R programming while having a jolly time!

### Other:

- Amongst top 3% StackOverflow users (https://stackoverflow.com/users/3309529/gagolews)
- Google Summer of Code 2016 Mentor of the RE2 Regular Expressions in R project (Student: Qin Wenfeng), 2016
- StackOverflow Academic Research Partnership Program Supervisor of a research task related to quantitative determinants of the popularity of online content, 2019
- Academic mentor of 10 industry capstone projects at Deakin University, 2020-2021

Marek Gagolewski 2 July 2022