

LIST OF PUBLICATIONS

INTERNATIONAL PEER-REVIEWED JOURNAL PAPERS WITH IMPACT FACTOR

- ◇ P. Mikolas, J. Hlinka, A. Škoch, Z. Pitra, T. Frodl, F. Španiel, and T. Hájek. Machine learning classification of first-episode schizophrenia spectrum disorders and controls using whole brain white matter fractional anisotropy. *BMC psychiatry*, 18(97), 2018b. doi: 10.1186/s12888-018-1678-y. URL <https://link.springer.com/article/10.1186/s12888-018-1678-y>
- ★ L. Bajer, Z. Pitra, J. Repický, and M. Holeňa. Gaussian process surrogate models for the CMA Evolution Strategy. *Evolutionary Computation*, 27(4):665–697, 2019a. doi: 10.1162/evco_a_00244. URL https://doi.org/10.1162/evco_a_00244
*Best ICS paper 2018
- ◇ Z. Pitra, J. Koza, J. Tumpach, and M. Holeňa. Landscape analysis for surrogate models in the evolutionary black-box context. pages 1–34, 2022. doi: 10.48550/ARXIV.2203.11315. URL <https://arxiv.org/abs/2203.11315>. Under review in journal. Preprint available on arXiv.org

INTERNATIONAL CONFERENCE PROCEEDINGS INDEXED IN SCOPUS AND WEB OF SCIENCE

- ◇ L. Bajer, Z. Pitra, and M. Holeňa. Benchmarking Gaussian processes and random forests surrogate models on the BBOB noiseless testbed. In *Proceedings of the Companion Publication of the 2015 Annual Conference on Genetic and Evolutionary Computation, GECCO Companion '15*, pages 1143–1150, New York, NY, USA, 2015a. Association for Computing Machinery. doi: 10.1145/2739482.2768468. URL <https://doi.org/10.1145/2739482.2768468>
- ◇ L. Bajer, Z. Pitra, and M. Holeňa. Investigation of Gaussian processes and random forests as surrogate models for evolutionary black-box optimization. In *Proceedings of the Companion Publication of the 2015 Annual Conference on Genetic and Evolutionary Computation, GECCO Companion '15*, pages 1351–1352, New York, NY, USA, 2015b. Association for Computing Machinery. doi: 10.1145/2739482.2764692. URL <https://doi.org/10.1145/2739482.2764692>
- ◇ A. Kudinov, L. Bajer, Z. Pitra, and M. Holeňa. Investigation of gaussian processes in the context of black-box evolutionary optimization. In J. Yaghob, editor, *ITAT 2015: Information Technologies - Applications and Theory*, volume 1422, pages 159–166, North Charleston, USA, 2015. CreateSpace Independent Publishing Platform. URL <http://ceur-ws.org/Vol-1422/159.pdf>
- ◇ Z. Pitra, L. Bajer, and M. Holeňa. Comparing SVM, Gaussian Process and Random Forest Surrogate Models for the CMA-ES. In J. Yaghob, editor, *ITAT 2015: Information Technologies*

- *Applications and Theory*, volume 1422, pages 186–193, North Charleston, USA, 2015. CreateSpace Independent Publishing Platform. URL <http://ceur-ws.org/Vol-1422/186.pdf>

- ★ Z. Pitra, L. Bajer, and M. Holeňa. Doubly trained evolution control for the surrogate cma-es. In J. Handl, E. Hart, P. R. Lewis, M. López-Ibáñez, G. Ochoa, and B. Paechter, editors, *Parallel Problem Solving from Nature – PPSN XIV: 14th International Conference, Edinburgh, UK, September 17–21, 2016, Proceedings*, pages 59–68, Cham, 2016. Springer International Publishing. URL https://link.springer.com/chapter/10.1007/978-3-319-45823-6_6
*Algorithm presented in the paper was placed 1st in the expensive single-objective track of the *Black Box Optimization Competition* at the conference GECCO 2017
- ◇ P. Mikolas, J. Hlinka, A. Škoch, Z. Pitra, T. Frodl, F. Španiel, and T. Hájek. Classification of first-episode schizophrenia spectrum disorders and controls from whole brain white matter fractional anisotropy using machine learning. *European Psychiatry*, 41:S191, 2017b. doi: <https://doi.org/10.1016/j.eurpsy.2017.01.2122>. URL <https://www.sciencedirect.com/science/article/pii/S0924933817321375>. Abstract of the 25th European Congress of Psychiatry
- ◇ P. Mikolas, J. Hlinka, A. Škoch, Z. Pitra, T. Frodl, F. Španiel, and T. Hájek. Classification of first-episode schizophrenia spectrum disorders and controls from whole brain white matter fractional anisotropy using machine learning. *Biological Psychiatry*, 81:S252, 2017a. doi: [10.1016/j.biopsych.2017.02.493](https://doi.org/10.1016/j.biopsych.2017.02.493). URL <https://doi.org/10.1016/j.biopsych.2017.02.493>
- ◇ Z. Pitra, L. Bajer, J. Repický, and M. Holeňa. Overview of surrogate-model versions of covariance matrix adaptation evolution strategy. In *Proceedings of the Genetic and Evolutionary Computation Conference Companion, GECCO '17*, pages 1622–1629, New York, NY, USA, 2017d. ACM. doi: [10.1145/3067695.3082539](https://doi.org/10.1145/3067695.3082539)
- ◇ Z. Pitra, L. Bajer, J. Repický, and M. Holeňa. Comparison of ordinal and metric Gaussian process regression as surrogate models for CMA evolution strategy. In *Proceedings of the Genetic and Evolutionary Computation Conference Companion, GECCO '17*, pages 1764–1771, New York, NY, USA, 2017b. ACM. doi: [10.1145/3067695.3084206](https://doi.org/10.1145/3067695.3084206)
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- ★ Z. Pitra, L. Bajer, J. Repický, and M. Holeňa. Adaptive Doubly Trained Evolution Control for the Covariance Matrix Adaptation Evolution Strategy. In *ITAT 2017: Information Technologies–Applications and Theory*, ITAT 2017, North Charleston, USA, 2017a. CreateSpace Independent Publishing Platform
*Algorithm presented in the paper was placed 2nd the single-objective track of the *Black Box Optimization Competition* at the conference GECCO 2017
- ◇ J. Repický, L. Bajer, Z. Pitra, and M. Holeňa. Adaptive generation-based evolution control for Gaussian process surrogate models. In J. Hlaváčová, editor, *Proceedings of the 17th Conference on Information Technologies – Applications and Theory (ITAT 2017), Martinské hole,*

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- ◇ P. Mikolas, J. Hlinka, A. Škoch, Z. Pitra, E. Bakstein, T. Frodl, F. Španiel, and T. Hájek. Connectivity of the anterior insula differentiates participants with first-episode schizophrenia spectrum disorders from controls: A machine-learning study. *Clinical Neurophysiology*, 129(4):e8, 2018a. doi: <https://doi.org/10.1016/j.clinph.2018.01.027>. URL <https://www.sciencedirect.com/science/article/pii/S1388245718300439>
- ◇ Z. Pitra, J. Repický, and M. Holeňa. Boosted regression forest for the doubly trained surrogate covariance matrix adaptation evolution strategy. In S. Krajci, editor, *Proceedings of the 18th Conference Information Technologies - Applications and Theory (ITAT 2018), Hotel Plejsy, Slovakia, September 21–25, 2018*, volume 2203 of *CEUR Workshop Proceedings*, pages 72–79, North Charleston, USA, 2018a. CEUR-WS.org
- ◇ J. Repický, M. Holeňa, and Z. Pitra. Automated selection of covariance function for Gaussian process surrogate models. In S. Krajci, editor, *Proceedings of the 18th Conference Information Technologies - Applications and Theory (ITAT 2018), Hotel Plejsy, Slovakia, September 21–25, 2018*, volume 2203 of *CEUR Workshop Proceedings*, pages 64–71. CEUR-WS.org, 2018a. URL <http://ceur-ws.org/Vol-2203/64.pdf>
- ◇ Z. Pitra, J. Repický, and M. Holeňa. Transfer of knowledge for surrogate model selection in cost-aware optimization. In G. Kreml, V. Lemaire, D. Kottke, A. Calma, A. Holzinger, R. Polikar, and B. Sick, editors, *Proceedings of the Workshop on Interactive Adaptive Learning co-located with European Conference on Machine Learning (ECML 2018) and Principles and Practice of Knowledge Discovery in Databases (PKDD 2018), Dublin, Ireland, September 10th, 2018*, volume 2192 of *CEUR Workshop Proceedings*, pages 89–94. CEUR-WS.org, 2018b. URL http://ceur-ws.org/Vol-2192/ialatecml_paper9.pdf
- ◇ J. Repický, Z. Pitra, and M. Holeňa. Adaptive selection of Gaussian process model for active learning in expensive optimization. In G. Kreml, V. Lemaire, D. Kottke, A. Calma, A. Holzinger, R. Polikar, and B. Sick, editors, *Proceedings of the Workshop on Interactive Adaptive Learning co-located with European Conference on Machine Learning (ECML 2018) and Principles and Practice of Knowledge Discovery in Databases (PKDD 2018), Dublin, Ireland, September 10th, 2018*, volume 2192 of *CEUR Workshop Proceedings*, pages 80–84. CEUR-WS.org, 2018b. URL http://ceur-ws.org/Vol-2192/ialatecml_paper7.pdf
- ★ Z. Pitra, J. Repický, and M. Holeňa. Landscape analysis of Gaussian process surrogates for the covariance matrix adaptation evolution strategy. In *Proceedings of the Genetic and Evolutionary Computation Conference, GECCO '19*, pages 691–699, New York, NY, USA, 2019b. Association for Computing Machinery
 - * Best paper nominee at the conference GECCO 2019
- ◇ L. Bajer, Z. Pitra, J. Repický, and M. Holeňa. Gaussian process surrogate models for the CMA-ES. In *Proceedings of the Genetic and Evolutionary Computation Conference Companion, GECCO '19*, pages 17–18, New York, NY, USA, 2019b. Association for Computing Machinery. doi: [10.1145/3319619.3326764](https://doi.org/10.1145/3319619.3326764). URL <https://doi.org/10.1145/3319619.3326764>

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- ◇ M. Dvořák, Z. Pitra, and M. Holeňa. Assessment of surrogate model settings using landscape analysis. In M. Holeňa, T. Horváth, A. Kelemenová, F. Mráz, D. Pardubská, M. Plátek, and P. Sosík, editors, *Proceedings of the 20th Conference Information Technologies - Applications and Theory (ITAT 2020), Hotel Tyrapol, Oravská Lesná, Slovakia, September 18-22, 2020*, volume 2718 of *CEUR Workshop Proceedings*, pages 81–89. CEUR-WS.org, 2020. URL <http://ceur-ws.org/Vol-2718/paper20.pdf>
- ◇ Z. Pitra and M. Holeňa. Towards landscape analysis in adaptive learning of surrogate models. In D. Kottke, G. Kreml, V. Lemaire, A. Holzinger, and A. Calma, editors, *Proceedings of the Workshop on Interactive Adaptive Learning co-located with European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD 2020), Ghent, Belgium, September 14th, 2020*, volume 2660 of *CEUR Workshop Proceedings*, pages 78–83. CEUR-WS.org, 2020. URL http://ceur-ws.org/Vol-2660/ialatecmL_shortpaper2.pdf
- ◇ J. Koza, J. Tumpach, Z. Pitra, and M. Holeňa. Using past experience for configuration of gaussian processes in black-box optimization. In D. E. Simos, P. M. Pardalos, and I. S. Kotsireas, editors, *Learning and Intelligent Optimization - 15th International Conference, LION 15, Athens, Greece, June 20-25, 2021, Revised Selected Papers*, volume 12931 of *Lecture Notes in Computer Science*, pages 167–182. Springer, 2021b. doi: 10.1007/978-3-030-92121-7_15. URL https://doi.org/10.1007/978-3-030-92121-7_15
- ◇ J. Koza, J. Tumpach, Z. Pitra, and M. Holeňa. Combining Gaussian processes and neural networks in surrogate modelling for covariance matrix adaptation evolution strategy. In B. Brejová, L. Ciencialová, M. Holeňa, F. Mráz, D. Pardubská, M. Plátek, and T. Vinař, editors, *Proceedings of the 21st Conference Information Technologies - Applications and Theory (ITAT 2021), Hotel Heřpa, Nízke Tatry and Muránska planina, Slovakia, September 24-28, 2021*, volume 2962 of *CEUR Workshop Proceedings*, pages 29–38. CEUR-WS.org, 2021a. URL <http://ceur-ws.org/Vol-2962/paper27.pdf>
- ◇ J. Růžička, J. Koza, J. Tumpach, Z. Pitra, and M. Holeňa. Combining Gaussian processes with neural networks for active learning in optimization. In *ECML PKDD 2021: Workshop on Interactive Adaptive Learning*, pages 105–120, 2021. URL https://www.activeml.net/ial2021/pdf/ialatecmL_paper9.pdf
- ◇ Z. Pitra, M. Hanuš, J. Koza, J. Tumpach, and M. Holeňa. Interaction between model and its evolution control in surrogate-assisted CMA evolution strategy. In *Proceedings of the Genetic and Evolutionary Computation Conference, GECCO '21*, pages 528–536, New York, NY, USA, 2021. Association for Computing Machinery