dr. ir. Joaquin Vanschoren

Born June 1, 1981, Hasselt, Belgium

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Professional Profile

I'm a machine learning researcher on a quest to build AI systems that learn how to learn. From newborn to adult, we (humans) experiment and learn how to do simple tasks first, and then learn new, more complex tasks very efficiently. Likewise, I aim to build AI systems to never stop learning, that experiment, learn what works, and leverage that to learn new tasks more effectively. I founded and lead OpenML.org, an online machine learning platform where anyone can share machine learning data, code, models and experiments in a frictionless and reproducible way. I also develop algorithms that learn from all these experiments to automate machine learning itself (AutoML), and that leverage previously learned knowledge to learn new task more efficiently. I am eager to meet new people, set up new collaborations, and change the world for the better.

Professional Experience

- **Eindhoven University of Technology**
  - **Assistant Professor** Department of Mathematics and Computer Science — Jan 2014 - now
- **CityLife**
  - **Data Scientist** Large-scale recommender systems. 150,000+ users. — Sept 2013 - Dec 2013
- **University of Leiden**
  - **Post-doctoral Fellow** Leiden Institute for Advanced Computer Science. — Sep 2010 - Sept 2013
    Lecturer, NWO Project Lead, PhD Supervisor, Researcher
- **University of Leuven**
  - **PhD Candidate**. Computer Science Department. — Aug 2005 - Aug 2010
    Original machine learning research on meta-learning, Teaching assistance

Education and Degrees

- **PhD in Engineering**, *University of Leuven, Belgium* — 17 May 2010
  - PhD thesis: "Understanding Machine Learning Performance with Experiment Databases"
    Data-driven analysis of machine learning techniques, the foundation of OpenML.org.
- **Master in Engineering: Computer Science**, *University of Leuven*, cum laude — 8 July 2005
  - Master's thesis: "Development of a framework for high-level perception", magna cum laude
    On bottom-up reconstruction and interpretation of visual scenes, used in face recognition systems.
- **High school education**
  - Sint Jan Berchmansinstituut Zonhoven: Latin-Mathematics — 1995-1999
  - Vrije Middenschool Zonhoven: Latin — 1993-1995

Competence Summary

- **Programming languages**: Python, R, Java, PHP, Javascript, C++, C#, Matlab
- **Languages**: English (proficient), Dutch (native), Spanish (native), French (fluent), German (basic)
- **Technologies**: Machine learning algorithms and systems (incl. deep learning), MapReduce/Spark, Web technology, Databases, Semantic Web
- **Software development**: Data structures, Algorithms, Design patterns. Agile, Scrum, Git.
  Open source development (OpenML), production-level recommender systems (CityLife app)
- **Leadership**: Research project leader, Open source project lead, PhD/MSc Supervisor, Conference chair.
- **Speaking and authorship**: University lecturer, invited speaker at many international conferences and workshops. Author of many scientific publications, grant applications and project reports.
- **International collaboration** with researchers and professionals from many universities and companies (Amazon, Microsoft, Philips, ...)
- **Organization** of international scientific conferences and workshops: General chair (LION, Benelearn), PC chair (Discovery Science), Associate chair (ECML-PKDD), Workshop Chair of NIPS, ICML, ECML and ECAI workshops
- **Reviewing** for major scientific journals (MLJ, JMLR, DaMi, SWJ, COIN), programme committee member for large scientific conferences (NeurIPS, ICML, KDD, ECML-PKDD, IJCAI, IJCNN, ESWC,...).

References

Recommendations can also be found at http://www.linkedin.com/in/jvanschoren

- **Prof. dr. Mykola Pechenizkiy** — Research group chair
  Full professor, Eindhoven University of Technology, The Netherlands
  Phone: +31 40 247 26 02, e-mail: m.pechenizkiy@tue.nl
- **Prof. dr. ir. Hendrik Blockeel** — PhD promotor
  Full professor, University of Leuven, Belgium
  Phone: +32 16 32 76 43, e-mail: hendrik.blockeel@cs.kuleuven.be
- **Prof. dr. Geoff Holmes** — PhD co-supervisor
  Dean of the School of Computing and Mathematical Sciences, Waikato University, New Zealand
  Phone: +64 7 838 4405, e-mail: geoff@waikato.ac.nz

Other interests

Triathlon, Marathon running, Photography, Improvisational theater

Awards

- Amazon Research Award, Jan 2019
- Microsoft Azure Research Award, July 2016 + July 2017
- Dutch Data Prize, Research Data Netherlands, Nov 2016
- Best Demo Award, 17th European Conference on Machine Learning (ECML-PKDD), 2009

Fellowships

- ELLIS Founding member, Jul 2019 - ...
- CLAIRE Key member, Sep 2018 - ...
- Open Machine Learning Foundation chairman, July 2018 - ...
- W3C ML-Schema Community Group co-chair, Oct 2015 - ...
- Dutch School for Information and Knowledge Systems (SIKS), Jan 2014 - ...

Grants

Amounts are resources dedicated to my research group

- ITEA Inno4Health grant €517,000, July 2020
  - 'Continuous monitoring in personal and physical health' - on metalearning for Edge AI, Participant
- Dutch Science Foundation (NWO) TTW Grant €122,000, April 2020
  - 'Multi Modal Photochemistry', Participant
- EU Horizon 2020 Networks of AI Excellence Grant €350,000 (+ 1.5M€ networking fund), March 2020
  - 'TAILOR: Trustworthy AI by Integrating Learning, Optimization, and Reasoning', Participant
- Dutch Science Foundation (NWO) Perspectief Grant €300,000, January 2020
  - 'SkyHigh: Leveraging AI in Vertical Farming', Participant
- BOOST program grant (TU Eindhoven internal) €60,000, May 2019
  - 'Educational platform for machine learning and medical image analysis', Co-lead
- Amazon Research Award $100,000, Jan 2019
  - 'The AutoML Gym', Principal Investigator
- Dutch Science Foundation (NWO) Commit2Data grant €240,000, Jul 2017
  - 'Dynamic Data Analytics through automatically Constructed Machine Learning Pipelines', Particip.
- DARPA Data Driven Discovery of Models program, €500,000, Apr 2017 (extended Sep 2019)
  - 'AutoFlow: Automatic Workflow Construction and Optimization', Participant
- Microsoft Azure Research Award, €40,000, Sep 2016
  - 'A Cloud-Based Platform for Automated Machine Learning', Principal Investigator
- Dutch Science Foundation (NWO) Free Competition research grant, €240,000, Sep 2012 - Sep 2016
  - 'Massively Collaborative Data Mining', Principal Investigator
- EU PASCAL Harvest grant, €30,000, Aug 2012 - Feb 2013
  - 'MLOpen Machine Learning Platform', Principal Investigator

Invited Talks

Video's available on https://joaquinvanschoren.github.io

- UCI Symposium on Reproducibility in Machine Learning, Virtual, Sep 2020
- Booking.com Research, Amsterdam, The Netherlands, Jan 2020
- ECML Workshop on Automated Machine Learning, Wurzburg, Germany, Sep 2019
- UN Global Summit on AI for Good, Geneva, Switzerland, May 2019

- Spring Symposium (AI for collaborative data science), AAAI, Stanford, USA, Mar 2019
- AutoML Tutorial, NeurIPS, Montreal, Canada, Dec 2018
- MLOSS Workshop, NeurIPS, Montreal, Canada, Dec 2018
- AutoML Workshop, PRICAI, Nanjing, China, Aug 2018
- DEEM Workshop, SIGMOD, Houston, USA, Jun 2018
- National eScience Symposium, Amsterdam, The Netherlands, Oct 2017
- Reproducible Machine Learning workshop, ICML, Sydney, Australia, Aug 2017
- Big data tools for physics and astronomy workshop, Amsterdam, The Netherlands, Jun 2017
- Amazon Research, Berlin, Germany, Apr 2017 and Cambridge, UK, Feb 2017
- Challenges in Machine Learning Workshop, NIPS, Barcelona, Spain, Dec 2016
- Dutch Society for Pattern Recognition, Eindhoven, The Netherlands, Nov 2016
- IBM Watson Research Center, New York, USA, Jun 2016
- Machine Learning for High Energy Physics, Lund, Sweden, Jun 2016
- Open Data Science @ Sheffield workshop, Sheffield, UK, Dec 2015
- Horizon Talk, IDA, St Etienne, France, Oct 2015
- Statistical Computing (StatComp), Ulm, Germany, Jul 2015
- AutoML Workshop, ICML, Lille, France, Jul 2015
- European Conference on Data Analysis (ECDA), Bremen, Germany, Jul 2014

Media

- Science Magazine, interview on AutoML-Zero, Apr. 13, 2020.
- Science Magazine, interview on replicability of AI studies, Feb. 15, 2018.
- KDnuggets, article on our new AutoML book, May 2020.
- KDnuggets, article on OpenML, Aug 2014

Scientific Service (selection)

Journal Editorial Board

- Journal of Machine Learning Research (JMLR), Action Editor for MLOSS
- Machine Learning Journal (MLJ), Action Editor

Conference Chair

- Program Chair, Discovery Science 2016, Limassol, Cyprus
- General Chair, Learning and Intelligent OptimizatioN Conference (LION 2016), Ischia, Italy
- Demo Chair, European Conference on Machine Learning (ECMLPKDD 2013), Prague, Czech Republic
- Program Chair, BeNeLearn 2010-2011, Leuven, Belgium and The Hague, The Netherlands

Workshop Chair

- Meta-Learning, NIPS 2018,2019,2020
- Automatic Machine Learning, ICML 2016,2017,2018,2019,2020
- The Data Science Process, DALI 2017
- Automatic Machine Learning, ECMLPKDD 2017
- Meta-Learning and Algorithm Selection, ECMLPKDD 2015, ECAI 2014
- Learning from Unexpected Results, ECMLPKDD 2012, Bristol, UK
- Planning to Learn, ECAI 2012, Montpellier, France

Conference Program Committee Member:

- Neural Information Processing Systems (NeurIPS): 2016-2020 - Top 30% reviewer
- Machine Learning and Systems (MLSys): 2019-2020
- European Conference on Machine Learning (ECML-PKDD): 2012-2017
- European Conference on Artificial Intelligence (ECAI): 2014-2016
- ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD): 2016

Academic Supervision

PhD Students

- Bilge Celik, Eindhoven University of Technology, 2018-...
- Pieter Gijsbers, Eindhoven University of Technology, 2017-...
- Chao Zhang, Eindhoven University of Technology, 2015-2019
- Rafael Mantovani, PhD, University of Sao Paolo University, 2014-2018
- Jan van Rijn, PhD, Leiden University, 2012-2016

PDEng Students (Professional Doctorates)

- Yandre Lozano, PDEng, Predictive Maintenance for Smart Buildings, TU Eindhoven, 2018-2020
- Karthik Srinivasan, PDEng, Preventing Burglaries and Other Incidents, TU Eindhoven, 2014-2015.

Post-docs and Research Software Engineers

- Marcos L.P. Bueno, Postdoctoral Fellow, AutoML researcher, TU Eindhoven, 2019-...
- Prabhant Singh, RSE, OpenML/AutoML core development, TU Eindhoven, 2019-...
- Sahitya Ravi, RSE, OpenML/AutoML core development, TU Eindhoven, 2018-...

MSc Thesis supervision
See *https://joaquinvanschoren.github.io*

Teaching Activities (selection)

Master-level Teaching:

- Machine Learning Engineering (1st MSc), TU Eindhoven (2019 -...), Evaluation: Excellent (82%)
- Data Mining (1st MSc), Jheronimus Academy of Data Science (2018 -...), Evaluation: Excellent (81%)
- Foundations of Data Mining (1st MSc), TU Eindhoven (2015 - 2017), Evaluation: 78%
- Web-scale Information Systems (1st MSc), TU Eindhoven (2014 - 2015), Evaluation: 77%

Bachelor-level Teaching:

- Data Mining (1st BSc), Jheronimus Academy of Data Science (2016 - 2017), Evaluation: 84%
- Web Technology (2nd BSc), TU Eindhoven (2014 - 2017), Evaluation: 72%
- Data Mining (3rd BSc), Leiden University (2011 - 2014), Evaluation: 76%

Advanced courses for PhD students:

- Advanced Course on Data Science and Machine Learning (ACDL), Siena, Italy (2019). 100+ students.
- Geilo Winter School, Norway (2017). 128 students.
- Data Mining for Data Scientists, Eindhoven University of Technology (2015). 30 students.

Conference Tutorials:

- Automatic Machine Learning (ODSC, 2019)
- Automatic Machine Learning (NeurIPS, 2018)
- Automatic Machine Learning (ECMLPKDD, 2017)
- Connecting R to the Machine Learning Platform OpenML (UseR, 2017)
- Meta-learning and Algorithm Selection (ECMLPKDD, 2015 and ECAI, 2014)

Publications

All full texts available on *https://joaquinvanschoren.github.io*

*(those with 25+ citations in **bold**)*

Journal papers

1. Sadawi, N., Olier, I., Vanschoren, J. van Rijn, JN., Besnard, J., Bickerton, R., Grosan, C., Soldatova, L., King, R.D (2020), Multi-task learning with a natural metric for quantitative structure activity relationship learning. Journal of Cheminformatics 11 (1), 68
2. Mantovani, R.G., Rossi, A.L.D., Alcobaca, E., Vanschoren, J., Carvalho, A.C.P.L.F. (2019) A meta-learning recommender system for hyperparameter tuning. *Information Sciences*, 501, 193-221
3. Gijsbers, P., Vanschoren, J. (2019) GAMA: Genetic Automated Machine learning Assistant. *Journal of Open Source Software*, 4 (33), 1-2, 2019
4. **van Rijn, J.N., Holmes, G., Pfahringer, B., Vanschoren, J. (2018) The online performance estimation framework: Heterogeneous Ensemble Learning for Data Streams. *Machine Learning* 107 (1), 149-176**
5. **Olier, I., Sadawi, N., Bickerton, G.R., Vanschoren, J., Grosan, C., Soldatova, L., King, R.D. (2018) Meta-QSAR: a large-scale application of meta-learning to drug design and discovery *Machine Learning* 107 (1), 285-311**
6. Abdulrahman, S, Brazdil, P., van Rijn, J.N., Vanschoren, J. (2018) Speeding up Algorithm Selection via Meta-learning and Active Testing. *Machine Learning* 107 (1), 79-108
7. **Casalicchio, G., Hofner, B., Lang, M., Kirchhoff, D., Kerschke, P., Seibold, H., Bossek, J., Vanschoren, J., Bischl, B. (2017) OpenML: An R Package to Connect to the Networked Machine Learning Platform. *Computational Statistics* 32 (3), 1-15**
8. **Eerikainen, L.M., Vanschoren, J., Rooijakkers, M.J., Vullings, R., Aarts, R.M. (2016) Reduction of false arrhythmia alarms using signal selection and machine learning. *Physiological Measurement*, 37 (8), 1204-1216**
9. **Bischl, B., Kerschke, P., Kotthoff, L., Lindauer, M., Malitsky, Y., Frechette, A., Hoos, H., Hutter, F., Leyton-Brown, K., Tierney, K., Vanschoren, J. (2016) ASlib: A Benchmark Library for Algorithm Selection. *Artificial Intelligence*, 237, 41-58**
10. **Vanschoren, J., van Rijn, J.N., Bischl, B. and Torgo, L. (2013) OpenML: networked science in machine learning. *ACM SIGKDD Explorations*, 15 (2), 49-60.**
11. **Serban, F.*, Vanschoren, J.*, Kietz, J.U. and Bernstein, A. (2012) A Survey of Intelligent Assistants for Data Analysis. *ACM Computing Surveys*, 45 (3), Art. 31**
12. **Vanschoren, J., Blockeel, H., Pfahringer, B. and Holmes, G. (2012) Experiment Databases: A new way to share, organize and learn from experiments. *Machine Learning*, 87(2), 127-158**

Conference papers (Peer reviewed, top-level conferences)

13. Gijsbers, P., Vanschoren, J. (2019) GAMA: A General Automated Machine learning Assistant. *Proceedings of ECMLPKDD 2020*
14. Grootendorst, M., Vanschoren, J. (2019) Beyond Bag-of-Concepts: Vectors of Locally Aggregated Concepts *Proceedings of ECMLPKDD 2019*
15. Gao, B., Berendt, B. and Vanschoren, J. (2016) Towards understanding online sentiment expression. An interdisciplinary approach with subgroup comparison and visualization. *Social Network Analysis and Mining*, 6 (1), 68:1-68:16
16. van Rijn, J.N., Holmes, G., Pfahringer, B., Vanschoren, J. (2015) Having a Blast: Meta-Learning and Heterogeneous Ensembles for Data Streams. *IEEE Proceedings of ICDM 2015*, 1003-1008.
17. Vanschoren, J., Bischl, B., Hutter, F., Sebag, M., Kegl, B., Schmid, M., Napolitano, G., Wolstencroft, K., Williams, A.R, and Lawrence, N (2015) Towards a Data Science Collaboratory. *Lecture Notes in Computer Science* (IDA 2015), 9385, XIX-XXI
18. **van Rijn, J.N., Abdulrahman, S.M., Brazdil, P. and Vanschoren, J. (2015) Fast Algorithm Selection Using Learning Curves. *Lecture Notes in Computer Science* (IDA 2015), 9385, 298-309**
19. **Eerikainen, L.M., Vanschoren, J., Rooijakkers, M.J., Vullings, R., Aarts, R.M. (2015) Decreasing the False Alarm Rate of Arrhythmias in Intensive Care Using a Machine Learning Approach. *IEEE Computing in Cardiology*, 42, 293-297**

20. Gao, B., Berendt, B. and Vanschoren, J. (2015) Who is more positive in private? Analyzing sentiment differences across privacy levels and demographic factors in Facebook chats and posts. *IEEE/ACM Proceedings of ASONAM 2015*, 605-610
21. **Mantovani, R.G., Rossi, A.D.L, Vanschoren, J., Bischl, B., Carvalho A.C.P.L.F. (2015) To tune or not to tune: recommending when to adjust SVM hyper-parameters via Meta-learning. *IEEE Proceedings of the International Joint Conference on Neural Networks (IJCNN 2015)*, 1-8**
22. **Mantovani, R.G., Rossi, A.D.L, Vanschoren, J., Bischl, B., Carvalho A.C.P.L.F. (2015) Effectiveness of Random Search in SVM hyper-parameter tuning. *IEEE Proceedings of the International Joint Conference on Neural Networks (IJCNN 2015)***
23. **van Rijn, J.N., Holmes, G., Pfahringer, B. and Vanschoren, J. (2014) Algorithm Selection on Data Streams. *Lecture Notes in Computer Science* (Discovery Science), 8777, 325-336.**
24. **van Rijn, J., Bischl, B., Torgo, L., Gao, B., Umaashankar, V., Fischer, S., Winter, P., Wiswedel, B., Berthold, M.R., and Vanschoren, J. (2013) OpenML: A Collaborative Science Platform. *Lecture Notes in Computer Science* (ECML PKDD 2013), 8190, 645-649**
25. Reutemann, P., Vanschoren, J. (2012) Scientific Workflow Management with ADAMS. *Lecture Notes in Computer Science* (ECML PKDD 2012), 7524, 833-837
26. Vespier, U., Knobbe, A.J., Nijssen, S., Vanschoren, J. (2012) MDL-Based Analysis of Time Series at Multiple Time-Scales. *Lecture Notes in Computer Science* (ECML PKDD 2012), 7524, 371-386
27. **Leite, R., Brazdil P., Vanschoren, J. (2012) Selecting Classification Algorithms with Active Testing. *Lecture Notes in Computer Science* (MLDM 2012), 7376, 117-13**1
28. Vespier, U., Knobbe, A., Vanschoren, J., Miao, S., Koopman, A., Obladen, B., and Bosma, C. (2011) Traffic Events Modeling for Structural Health Monitoring. *Lecture Notes in Computer Science* (IDA 2011), 7014, 276-387
29. Vanschoren, J., Blockeel, H. (2009). A community-based platform for machine learning experimentation. *Lecture Notes In Computer Science* (ECML-PKDD 2009), 5782, 750-754 - textbfBest demo award
30. Vanschoren, J., Pfahringer, B., Holmes, G. (2008). Learning from the past with experiment databases. *Lecture Notes in Artificial Intelligence* (PRICAI 2008), 5351, 485-496
31. Vanschoren, J., Blockeel, H., Pfahringer, B., Holmes, G. (2008). Organizing the world's machine learning information. *Comm. in Computer and Information Science* (ISOLA 2008), 17, 693-708
32. Vanschoren, J., Blockeel, H. (2008). Investigating classifier learning behavior with experiment databases. *Data Analysis, Machine Learning and Applications* (GfKL 2007), 421-428
33. **Blockeel, H.*, Vanschoren, J.* (2007). Experiment databases: Towards an improved experimental methodology in machine learning. *Lecture Notes in Computer Science* (ECMLPKDD 2007), 4702, 6-17. (Best Demo Award)**

Conference papers (Peer reviewed)

34. Mantovani, R.G., Horvath, T., Cerri, R., Carvalho, A.P.L.F., Vanschoren, J. (2016) Hyper-parameter Tuning of a Decision Tree Induction Algorithm, *Brazilian Conference on Intelligent Systems (BRACIS 2016)*
35. van Rijn, J.N., Abdulrahman, S.M., Brazdil, P. and Vanschoren, J. (2016) On the Evaluation of Algorithm Selection Problems. *Machine Learning Conference of Belgium and The Netherlands*, 1-2.
36. van Rijn, J.N., Holmes, G., Pfahringer, B., Vanschoren, J. (2015) Case Study on Bagging Stable Classifiers for Data Streams. *Machine Learning Conference of Belgium and The Netherlands*, 1-6.
37. Vanschoren, J., Braun, M. and Ong, C.S. (2013) Open science in machine learning. *Proceedings of CLADAG 2013*, 462-465. ISBN: 9788867871179
38. van Rijn, J., Umaashankar, V., Fischer, S., Bischl, B., Torgo, L., Gao, B., Winter, P., Wiswedel, B., Berthold, M.R., and Vanschoren, J. (2013) A RapidMiner extension for Open Machine Learning. *Proceedings of RCOMM 2013*, 59-70. ISBN: 978-3-8440-2145-5
39. Gao, B. and Vanschoren, J. (2011) Visualizations of Machine Learning Behavior with Dimensionality Reduction Techniques. *Machine Learning Conference of Belgium and The Netherlands*, 35-42.
40. Vanschoren, J., Van Assche, A., Vens, C., Blockeel, H. (2007). Meta-learning from experiment databases: An illustration. *Machine Learning Conference of Belgium and The Netherlands*, 120-127.
41. Vanschoren, J., Blockeel, H. (2006). Towards understanding learning behavior. *Machine Learning Conference of Belgium and The Netherlands*, 89-96.

Refereed Workshop Articles

42. Robles, J., Vanschoren, J. (2019) Learning to reinforcement learn for Neural Architecture Search. NeurIPS New in ML Symposium (2019), arXiv:1911.03769
43. Manolache. G., Vanschoren, J. (2019) Meta-Learning for Algorithm and Hyperparameter Optimization with Surrogate Model Ensembles. NeurIPS Metalearning Workshop (2019)
44. Castelijns, L.A., Maas, Y., Vanschoren, J. (2019) The ABC of Data: A Classifying Framework for Data Readiness. ECMLPKDD Workshop on Automating Data Science (AutoDS 2019).
45. van Hoof, J., Vanschoren, J. (2019) HyperBoost: Hyperparameter Optimization by Gradient Boosting surrogate modelss. ECMLPKDD Workshop on Automating Data Science (AutoDS 2019).
46. Celik, B., Vanschoren, J. (2019) Learning to go with the flow: on the adaptability of automated machine learning to evolving data. ECMLPKDD Workshop on Automating Data Science (AutoDS 2019).
47. **Gijsbers, P., Ledell, E., Thomas, J., Poirier, S., Bischl, B., Vanschoren, J. (2019) An Open Source AutoML Benchmark. ICML Workshop on Automated Machine Learning (AutoML 2019).**
48. van Rijn, J. N., Pfisterer, F., Thomas, J., Mueller, A., Bischl, B., Vanschoren, J. (2018) Meta learning for defaults: symbolic defaults. NeurIPS 2018 Meta-learning Workshop (Meta-learning 2018).
49. Publio, C.G.., Esteves, D., Lawrynowicz, A., Panov, P., Soldatova, L., Soru, T., Vanschoren, J., Zafar, H. (2018) ML Schema: Exposing the Semantics of Machine Learning with Schemas and Ontologies. *ICML Workshop on Reproducibility in Machine Learning (RML 2018)*
50. **Zhu, Y., Aoun, M., Krijn, M., Vanschoren, J. (2018) Data Augmentation using Conditional Generative Adversarial Networks for Leaf Counting in Arabidopsis Plants. *BMVC Workshop on Computer Vision Problems in Plant Phenotyping (CVPPP 2018)***
51. Gijsbers, P., Vanschoren, J., Olson, R.S. (2017) Layered TPOT: Speeding up Tree-based Pipeline Optimization. *Proceedings of the 2017 ECMLPKDD AutoML Workshop.*
52. Lawrynowicz, A., Esteves, D., Panov. P., Soru, T., Džeroski, S., Vanschoren, J (2016) An Algorithm, Implementation and Execution Ontology Design Pattern. *ISWC Workshop on Ontology and Semantic Web Patterns: 1-12*
53. Bernard, H. F., Heinrich, A., Vanschoren, J. (2016) Improved driver sleepiness prediction with CASH. *European Data Forum 2016*.
54. Zhang, C., van Wissen, A., Lakens, D., Vanschoren, J., de Ruyter, B.E.R., IJsselsteijn, W.A. (2016) Anticipating habit formation: a psychological computing approach to behavior change support. *UbiComp Adjunct 2016*: 1247-1254
55. Bischl, B., Bossek, J., Casalicchio, G., Hofner, B., Kerschke, P., Kirchhoff, D., Lang, M., Seibold, H., Vanschoren, J. (2016) Connecting R to the OpenML project for Open Machine Learning. *useR Conference 2016*.
56. Vanschoren, J,. van Rijn, J.N. and Bischl, B. (2015) Taking machine learning research online with OpenML. *JMLR Workshop and Conference Proceedings* (BigMine 2015), 41, 1-4.
57. Abdulrahman, S, Brazdil, P., van Rijn, J.N., Vanschoren, J. (2015) Algorithm Selection via Meta-learning and Sample-based Active Testing. *CEUR Workshop Proceedings* (ECMLPKDD 2015 Workshop on Metalearning and Algorithm Selection), 1455, 55-66
58. Mantovani, R.G., Rossi, A.L.D., Vanschoren, J., Carvalho, A.C.P.L.F. (2015) Meta-learning Recommendation of Default Hyper-parameter Values for SVMs in Classification Tasks. *CEUR Workshop Proceedings* (ECMLPKDD 2015 Workshop on Metalearning and Algorithm Selection), 1455, 80-92
59. van Rijn, J.N., Vanschoren, J. (2015) Sharing RapidMiner Workflows and Experiments with OpenML. *CEUR Workshop Proceedings* (ECMLPKDD 2015 Workshop on Metalearning and Algorithm Selection), 1455, 93-103
60. Vukicevic, M., Radovanovic, S., Vanschoren, J., Napolitano, G., Delibasic, B. (2015) Towards a Collaborative Platform for Advanced Meta-Learning in Healthcare Predictive Analytics. *CEUR Workshop Proceedings* (MetaSel @ ECMLPKDD 2015), 1455, 112-114
61. Knobbe A.J., Meeng M. Vanschoren J., Rees Jones S., Merlo Penning S. (2015) Reconstructing Medieval Social Networks from English and Latin Charters. Population Reconstruction 2014
62. van Rijn, J.N., Holmes, G., Pfahringer, B. and Vanschoren, J. (2014) Towards Meta-learning on Data Streams. Workshop on Meta-learning and Algorithm Selection *CEUR Workshop Proceedings* (MetaSel @ ECMLPKDD 2014), 1201, 37-38.
63. van Rijn, J. and Vanschoren, J. (2013) OpenML: An Open Science Platform for Machine Learning. *Machine Learning Conference of Belgium and The Netherlands*, 99-100.

64. Vanschoren, J. (2012). The Experiment Database for Machine Learning. *CEUR Workshop Proceedings* (ECAI 2012 Workshop on Planning to Learn), 950, 30-37.
65. Vespier, U., Knobbe, A., Nijssen, S., Vanschoren, S. (2012). MDL-Based Identification of Relevant Temporal Scales in Time Series. *Workshop on Information Theoretic Methods in Science and Engineering, WITMSE 2012*.
66. Miao, S., Knobbe, A., Vanschoren, J., Vespier, U., Koopman, A., Cachucho, R., Chen, X. (2011). A Range of Data Mining Techniques to Correlate Multiple Sensor Types. *Dutch-Belgian Database Day*, Art.5.
67. **Vanschoren, J., Soldatova, S. (2010). Exposé: An Ontology for Data Mining Experiments. *Workshop on Third Generation Data Mining at ECML PKDD 2010*, 31-46.**
68. Vanschoren, J., Soldatova, S. (2010). Collaborative Meta-Learning. *Planning to Learn workshop at ECAI 2010*, 37-46.
69. Vanschoren, J., Blockeel, H. (2009). Stand on the shoulders of giants: towards a portal for collaborative experimentation in data mining. *3rd Generation DM Workshop, ECML PKDD '09*, 88-99
70. Vanschoren, J. (2008). Experiment databases for machine learning. *NIPS Workshop on Machine Learning Open Source Software at NIPS 2008*.
71. Vanschoren, J., Blockeel, H., Pfahringer, B., Holmes, G. (2008). Organizing the world's machine learning information. *Workshop on Third Generation Data Mining at ECML PKDD 2008*.
72. Vanschoren, J., Blockeel, H., Pfahringer, B., Holmes, G. (2008). Experiment databases: Creating a new platform for meta-learning research. *Planning to Learn Workshop, ICML 2008*, 10-15.

Books

73. **Hutter, F., Kotthoff, L., Vanschoren, J., (Eds.): Automatic Machine Learning: Methods, Systems, Challenges. Springer 2019**
74. Brazdil, P., van Rijn, J.N., Soares, C., Vanschoren, J.: Metalearning (2nd edition), Springer 2020

Book chapters

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