

Selected Publications

As of October 2023, my **h-index is ca. 155**. The following list contains **only my most important publications**. For a **full list** of my publications, see Google Scholar: <https://scholar.google.com/citations?user=ZgO3g3QAAAAJ>.

1. M. Amirian, J. A. Montoya-Zegarra, I. Herzig, P. E. Hotz, L. Lichtensteiger, M. Morf, A. Züst, P. Paysan, I. Peterlik, S. Scheib, R. M. Füchslin, T. Stadelmann, and F.-P. Schilling, "Mitigation of motion-induced artefacts in Cone Beam Computed Tomography using Deep Convolutional Neural Networks," *Med. Phys.*, vol. 50, no. 10, pp. 6228–6242, 2023. doi: 10.1002/mp.16405
2. F.-P. Schilling, D. Flumini, R. M. Füchslin, E. Gavagnin, A. Geller, S. Quarteroni, and T. Stadelmann, "Foundations of Data Science: A Comprehensive Overview Formed at the 1st International Symposium on the Science of Data Science," *Archives of Data Science, Series A*, vol. 8, no. 2, pp. 1 – 20, 2022. doi: 10.5445/IR/1000146422
3. I. Herzig, P. Paysan, S. Scheib, F.-P. Schilling, J. Montoya, M. Amirian, T. Stadelmann, P. Eggenberger, R. M. Füchslin, and L. Lichtensteiger, "Deep Learning-Based Simultaneous Multi-Phase Deformable Image Registration of Sparse 4D-CBCT," in *Proceedings of the American Association of Physics in Medicine Annual Meeting (AAPM 2022)*, 2022. doi: 10.21256/zhaw-25181 Washington, DC, USA, July 2022
4. N. Simmler, P. Sager, P. Andermatt, R. Chavarriaga, F.-P. Schilling, M. Rosenthal, and T. Stadelmann, "A survey of un-, weakly-, and semi-supervised learning methods for noisy, missing and partial labels in industrial vision applications," in *8th Swiss Conference on Data Science (SDS)*, 2021. doi: 10.1109/SDS51136.2021.00012 pp. 26–31
5. L. Tuggener, M. Amirian, F. Benites, P. von Däniken, P. Gupta, F.-P. Schilling, and T. Stadelmann, "Design Patterns for Resource-Constrained Automated Deep-Learning Methods," *AI*, vol. 1, no. 4, pp. 510–538, 2020. doi: 10.3390/ai1040031
6. F.-P. Schilling and T. Stadelmann, Eds., *Artificial neural networks in pattern recognition : Proceedings of the 9th IAPR TC3 workshop, ANNPR 2020, Winterthur, Switzerland, September 2-4, 2020*, vol. Lecture Notes in Computer Science, no. 12294. Springer, 2020. doi: 10.1007/978-3-030-58309-5
7. M. Amirian, L. Tuggener, R. Chavarriaga, Y. P. Satyawan, F.-P. Schilling, F. Schwenker, and T. Stadelmann, "Two to trust: Automl for safe modelling and interpretable deep learning for robustness," *Proc. of the 1st TAILOR Workshop on Trustworthy AI at ECAI 2020*, 2020. doi: 10.21256/zhaw-22061
8. M. Amirian, K. Rombach, L. Tuggener, F.-P. Schilling, and T. Stadelmann, "Efficient deep cnns for cross-modal automated computer vision under time and space constraints," *Proc. of ECML-PKDD 2019, Würzburg*, 2019. doi: 10.21256/zhaw-18357
9. S. Chatrchyan *et al.*, "Measurement of the mass difference between top quark and antiquark in pp collisions at $\sqrt{s} = 8$ TeV," *Phys. Lett. B*, vol. 770, pp. 50–71, 2017. doi: 10.1016/j.physletb.2017.04.028
10. S. Chatrchyan *et al.*, "Evidence for the direct decay of the 125 GeV Higgs boson to fermions," *Nature Phys.*, vol. 10, p. 557, 2014. doi: 10.1038/nphys3005
11. S. Chatrchyan *et al.*, "Search for the standard model Higgs boson produced in association with a W or a Z boson and decaying to bottom quarks," *Phys. Rev.*, vol. D89, p. 012003, 2014. doi: 10.1103/PhysRevD.89.012003
12. S. Chatrchyan *et al.*, "Observation of a new boson with mass near 125 GeV in pp collisions at $\sqrt{s} = 7$ and 8 TeV," *JHEP*, vol. 1306, p. 081, 2013. doi: 10.1007/JHEP06(2013)081
13. S. Chatrchyan *et al.*, "A New Boson with a Mass of 125 GeV Observed with the CMS Experiment at the Large Hadron Collider," *Science*, vol. 338, p. 1569, 2012. doi: 10.1126/science.1230816
14. S. Chatrchyan *et al.*, "Observation of a new boson at a mass of 125 GeV with the CMS experiment at the LHC," *Phys.Lett.*, vol. B716, pp. 30–61, 2012. doi: 10.1016/j.physletb.2012.08.021
15. F.-P. Schilling, "Top Quark Physics at the LHC: A Review of the First Two Years," *Int. J. Mod. Phys.*, vol. A27, no. 17, p. 1230016, 2012. doi: 10.1142/s0217751x12300165
16. S. Chatrchyan *et al.*, "Measurement of the single-top-quark t -channel cross section in pp collisions at $\sqrt{s} = 7$ TeV," *JHEP*, vol. 1212, p. 035, 2012. doi: 10.1007/JHEP12(2012)035

17. S. Chatrchyan *et al.*, “Inclusive and differential measurements of the $t\bar{t}$ charge asymmetry in proton-proton collisions at 7 TeV,” *Phys.Lett.*, vol. B717, pp. 129–150, 2012. doi: 10.1016/j.physletb.2012.09.028
18. S. Chatrchyan *et al.*, “Measurement of the charge asymmetry in top-quark pair production in proton-proton collisions at $\sqrt{s} = 7$ TeV,” *Phys.Lett.*, vol. B709, pp. 28–49, 2012. doi: 10.1016/j.physletb.2012.01.078
19. S. Chatrchyan *et al.*, “Measurement of the $t\bar{t}$ Production Cross Section in pp Collisions at 7 TeV in Lepton + Jets Events Using b-quark Jet Identification,” *Phys.Rev.*, vol. D84, p. 092004, 2011. doi: 10.1103/PhysRevD.84.092004
20. S. Chatrchyan *et al.*, “Measurement of the t-channel single top quark production cross section in pp collisions at $\sqrt{s} = 7$ TeV,” *Phys.Rev.Lett.*, vol. 107, p. 091802, 2011. doi: 10.1103/PhysRevLett.107.091802
21. S. Chatrchyan *et al.*, “Measurement of the t t-bar production cross section and the top quark mass in the dilepton channel in pp collisions at $\sqrt{s} = 7$ TeV,” *JHEP*, vol. 07, p. 049, 2011. doi: 10.1007/JHEP07(2011)049
22. S. Chatrchyan *et al.*, “Measurement of the Top-antitop Production Cross Section in pp Collisions at $\sqrt{s}=7$ TeV using the Kinematic Properties of Events with Leptons and Jets,” *Eur. Phys. J.*, vol. C71, p. 1721, 2011. doi: 10.1140/epjc/s10052-011-1721-3
23. V. Khachatryan *et al.*, “First Measurement of the Cross Section for Top-Quark Pair Production in Proton-Proton Collisions at $\sqrt{s} = 7$ TeV,” *Phys.Lett.*, vol. B695, pp. 424–443, 2011. doi: 10.1016/j.physletb.2010.11.058
24. S. Chatrchyan *et al.*, “Alignment of the CMS Silicon Tracker during Commissioning with Cosmic Rays,” *JINST*, vol. 5, p. T03009, 2010. doi: 10.1088/1748-0221/5/03/T03009
25. S. Chatrchyan *et al.*, “Alignment of the CMS Silicon Strip Tracker during standalone Commissioning,” *JINST*, vol. 4, p. T07001, 2009. doi: 10.1088/1748-0221/4/07/T07001
26. R. Adolphi *et al.*, “The CMS experiment at the CERN LHC,” *JINST*, vol. 3, p. S08004, 2008. doi: 10.1088/1748-0221/3/08/S08004
27. G. Bayatian *et al.*, “CMS technical design report, volume II: Physics performance,” *J. Phys.*, vol. G34, pp. 995–1579, 2007. doi: 10.1088/0954-3899/34/6/S01
28. V. Karimaki, T. Lampen, and F.-P. Schilling, “Track-based alignment of composite detector structures,” *IEEE Trans. Nucl. Sci.*, vol. 53, pp. 3830–3833, 2006. doi: 10.1109/TNS.2006.884384
29. A. Aktas *et al.*, “Measurement and QCD analysis of the diffractive deep- inelastic scattering cross-section at HERA,” *Eur. Phys. J.*, vol. C48, pp. 715–748, 2006. doi: 10.1140/epjc/s10052-006-0035-3
30. A. Aktas *et al.*, “Diffractive deep-inelastic scattering with a leading proton at HERA,” *Eur. Phys. J.*, vol. C48, pp. 749–766, 2006. doi: 10.1140/epjc/s10052-006-0046-0
31. C. Adloff *et al.*, “Measurement of inclusive jet cross-sections in photoproduction at HERA,” *Eur. Phys. J.*, vol. C29, pp. 497–513, 2003. doi: 10.1140/epjc/s2003-01262-9
32. A. Aktas *et al.*, “Diffractive photoproduction of J/ψ mesons with large momentum transfer at HERA,” *Phys. Lett.*, vol. B568, pp. 205–218, 2003. doi: 10.1016/j.physletb.2003.06.056
33. C. Adloff *et al.*, “Search for odderon-induced contributions to exclusive π^0 photoproduction at HERA,” *Phys. Lett.*, vol. B544, pp. 35–43, 2002. doi: 10.1016/S0370-2693(02)02479-6
34. C. Adloff *et al.*, “A measurement of the t dependence of the helicity structure of diffractive rho meson electro-production at HERA,” *Phys. Lett.*, vol. B539, pp. 25–39, 2002. doi: 10.1016/S0370-2693(02)02035-X
35. C. Adloff *et al.*, “Energy flow and rapidity gaps between jets in photoproduction at HERA,” *Eur. Phys. J.*, vol. C24, pp. 517–527, 2002. doi: 10.1007/s10052-002-0988-9
36. C. Adloff *et al.*, “Diffractive jet production in deep inelastic e^+p collisions at HERA,” *Eur. Phys. J.*, vol. C20, pp. 29–49, 2001. doi: 10.1007/s100520100634