

# References

- [1] Oriol Abril-Pla et al. “PyMC: a modern, and comprehensive probabilistic programming framework in Python”. In: *PeerJ Computer Science* 9 (Sept. 1, 2023). Publisher: PeerJ Inc., e1516. ISSN: 2376-5992. DOI: 10.7717/peerj-cs.1516. URL: <https://peerj.com/articles/cs-1516> (visited on 12/02/2024).
- [2] Bruno Amati and Hartmut Land. “Myc—Max—Mad: a transcription factor network controlling cell cycle progression, differentiation and death”. In: *Current Opinion in Genetics & Development* 4.1 (Feb. 1, 1994), pp. 102–108. ISSN: 0959-437X. DOI: 10.1016/0959-437X(94)90098-1. URL: <https://www.sciencedirect.com/science/article/pii/0959437X94900981> (visited on 12/03/2024).
- [3] Julian Blank and Kalyanmoy Deb. “Pymoo: Multi-Objective Optimization in Python”. In: *IEEE Access* 8 (2020). Conference Name: IEEE Access, pp. 89497–89509. ISSN: 2169-3536. DOI: 10.1109/ACCESS.2020.2990567. URL: <https://ieeexplore.ieee.org/document/9078759> (visited on 12/02/2024).
- [4] V. A. Bychkov et al. “In vitro modeling of tumor interclonal interactions using breast cancer cell lines”. In: *Experimental Oncology* 43.2 (2021). Number: 2, pp. 118–124. ISSN: 2312-8852. DOI: 10.32471/exp-oncology.2312-8852.vol-43-no-2.16142. URL: <https://exp-oncology.com.ua/index.php/Exp/article/view/2021-2-13> (visited on 12/06/2024).
- [5] M. Sofia Ciampi. “Rho-dependent terminators and transcription termination”. In: *Microbiology (Reading, England)* 152 (Pt 9 Sept. 2006), pp. 2515–2528. ISSN: 1350-0872. DOI: 10.1099/mic.0.28982-0.
- [6] K. Deb et al. “A fast and elitist multiobjective genetic algorithm: NSGA-II”. In: *IEEE Transactions on Evolutionary Computation* 6.2 (Apr. 2002). Conference Name: IEEE Transactions on Evolutionary Computation, pp. 182–197. ISSN: 1941-0026. DOI: 10.1109/4235.996017. URL: <https://ieeexplore.ieee.org/document/996017> (visited on 07/27/2024).
- [7] Kalyanmoy Deb, Karthik Sindhya, and Tatsuya Okabe. “Self-adaptive simulated binary crossover for real-parameter optimization”. In: *Proceedings of the 9th annual conference on Genetic and evolutionary computation*. GECCO ’07. New York, NY, USA: Association for Computing Machinery, July 7, 2007, pp. 1187–1194. ISBN: 978-1-59593-697-4. DOI: 10.1145/1276958.1277190. URL: <https://dl.acm.org/doi/10.1145/1276958.1277190> (visited on 11/24/2024).

- [8] *Deriving a genetic regulatory network from an optimization principle*. URL: <https://arxiv.org/html/2302.05680v2> (visited on 12/03/2024).
- [9] Heng Dong et al. “GRNMOPT: Inference of gene regulatory networks based on a multi-objective optimization approach”. In: *Computational Biology and Chemistry* 113 (Dec. 1, 2024), p. 108223. ISSN: 1476-9271. DOI: 10.1016/j.compbiolchem.2024.108223. URL: <https://www.sciencedirect.com/science/article/pii/S1476927124002111> (visited on 12/03/2024).
- [10] Gerard Evan et al. “Integrated control of cell proliferation and cell death by the c-myc oncogene”. In: *Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences* 345.1313 (Jan. 1997). Publisher: Royal Society, pp. 269–275. DOI: 10.1098/rstb.1994.0105. URL: <https://royalsocietypublishing.org/doi/abs/10.1098/rstb.1994.0105> (visited on 12/03/2024).
- [11] *File not found · WestHealth/pyvis*. GitHub. URL: <https://github.com/WestHealth/pyvis> (visited on 12/06/2024).
- [12] Aric Hagberg, Pieter J. Swart, and Daniel A. Schult. *Exploring network structure, dynamics, and function using NetworkX*. LA-UR-08-05495; LA-UR-08-5495. Los Alamos National Laboratory (LANL), Los Alamos, NM (United States), Jan. 1, 2008. URL: <https://www.osti.gov/biblio/960616> (visited on 12/06/2024).
- [13] S. P. Han. “A globally convergent method for nonlinear programming”. In: *Journal of Optimization Theory and Applications* 22.3 (July 1, 1977), pp. 297–309. ISSN: 1573-2878. DOI: 10.1007/BF00932858. URL: <https://doi.org/10.1007/BF00932858> (visited on 12/01/2024).
- [14] Zhong Han et al. “DNA-directed termination of RNA polymerase II transcription”. In: *Molecular Cell* 83.18 (Sept. 21, 2023), 3253–3267.e7. ISSN: 1097-4164. DOI: 10.1016/j.molcel.2023.08.007.
- [15] Richard J. Hanson and Charles L. Lawson. “Extensions and applications of the Householder algorithm for solving linear least squares problems”. In: *Mathematics of Computation* 23.108 (1969), pp. 787–812. ISSN: 0025-5718, 1088-6842. DOI: 10.1090/S0025-5718-1969-0258258-9. URL: <https://www.ams.org/mcom/1969-23-108/S0025-5718-1969-0258258-9/> (visited on 12/01/2024).
- [16] X.N. Huang and H.P. Ren. “Identification of robust adaptation gene regulatory network parameters using an improved particle swarm optimization algorithm”. In: *Genetics and Molecular Research* 15.2 (2016). ISSN: 16765680. DOI: 10.4238/gmr.15028652. URL: <http://www.funpecrp.com.br/gmr/year2016/vol15-2/pdf/gmr8652.pdf> (visited on 12/03/2024).
- [17] Grace E. Johnson et al. “Functionally uncoupled transcription–translation in *Bacillus subtilis*”. In: *Nature* 585.7823 (Sept. 2020). Publisher: Nature Publishing Group, pp. 124–128. ISSN: 1476-4687. DOI: 10.1038/s41586-020-2638-5. URL: <https://www.nature.com/articles/s41586-020-2638-5> (visited on 12/03/2024).

- 
- [18] Eric S. Kim and Kishan J. Pandya. “Advances in personalized therapy for lung cancer”. In: *Expert Opinion on Medical Diagnostics* 7.5 (Sept. 2013), pp. 475–485. ISSN: 1753-0067. DOI: 10.1517/17530059.2013.826645.
  - [19] Min-Sik Kim and Akhilesh Pandey. “Electron Transfer Dissociation Mass Spectrometry in Proteomics”. In: *Proteomics* 12.0 (Feb. 2012), pp. 530–542. ISSN: 1615-9853. DOI: 10.1002/pmic.201100517. URL: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3664229/> (visited on 12/06/2024).
  - [20] Sima Lev. “Targeted therapy and drug resistance in triple-negative breast cancer: the EGFR axis”. In: *Biochemical Society Transactions* 48.2 (Apr. 29, 2020), pp. 657–665. ISSN: 1470-8752. DOI: 10.1042/BST20191055.
  - [21] K. Liagkouras and K. Metaxiotis. “An Elitist Polynomial Mutation Operator for Improved Performance of MOEAs in Computer Networks”. In: *2013 22nd International Conference on Computer Communication and Networks (ICCCN)*. 2013 22nd International Conference on Computer Communication and Networks (ICCCN 2013). Nassau, Bahamas: IEEE, July 2013, pp. 1–5. ISBN: 978-1-4673-5775-3 978-1-4673-5774-6. DOI: 10.1109/ICCCN.2013.6614105. URL: <http://ieeexplore.ieee.org/document/6614105/> (visited on 11/25/2024).
  - [22] Wei-Liem Loh. “On Latin hypercube sampling”. In: *The Annals of Statistics* 24.5 (Oct. 1996). Publisher: Institute of Mathematical Statistics, pp. 2058–2080. ISSN: 0090-5364, 2168-8966. DOI: 10.1214/aos/1069362310. URL: <https://projecteuclid.org/journals/annals-of-statistics/volume-24/issue-5/On-Latin-hypercube-sampling/10.1214/aos/1069362310.full> (visited on 12/02/2024).
  - [23] Makoto Matsumoto and Takuji Nishimura. “Mersenne twister: a 623-dimensionally equidistributed uniform pseudo-random number generator”. In: *ACM Trans. Model. Comput. Simul.* 8.1 (Jan. 1, 1998), pp. 3–30. ISSN: 1049-3301. DOI: 10.1145/272991.272995. URL: <https://dl.acm.org/doi/10.1145/272991.272995> (visited on 11/25/2024).
  - [24] M. D. McKay, R. J. Beckman, and W. J. Conover. “A Comparison of Three Methods for Selecting Values of Input Variables in the Analysis of Output From a Computer Code”. In: *Technometrics* 42.1 (Feb. 1, 2000). Publisher: ASA Website eprint: <https://www.tandfonline.com/doi/pdf/10.1080/00401706.2000.10485979>, pp. 55–61. ISSN: 0040-1706. DOI: 10.1080/00401706.2000.10485979. URL: <https://www.tandfonline.com/doi/abs/10.1080/00401706.2000.10485979> (visited on 12/02/2024).
  - [25] Sophia Müller-Dott et al. “Expanding the coverage of regulons from high-confidence prior knowledge for accurate estimation of transcription factor activities”. In: *Nucleic Acids Research* 51.20 (Nov. 10, 2023), pp. 10934–10949. ISSN: 0305-1048. DOI: 10.1093/nar/gkad841. URL: <https://doi.org/10.1093/nar/gkad841> (visited on 12/03/2024).
-

- [26] Sophia Müller-Dott et al. “Expanding the coverage of regulons from high-confidence prior knowledge for accurate estimation of transcription factor activities”. In: *Nucleic Acids Research* 51.20 (Nov. 10, 2023), pp. 10934–10949. ISSN: 0305-1048. DOI: 10.1093/nar/gkad841. URL: <https://doi.org/10.1093/nar/gkad841> (visited on 12/02/2024).
- [27] Joselyn Padilla et al. “A Heme-Binding Transcription Factor BACH1 Regulates Lactate Catabolism Suggesting a Combined Therapy for Triple-Negative Breast Cancer”. In: *Cells* 11.7 (Mar. 31, 2022), p. 1177. ISSN: 2073-4409. DOI: 10.3390/cells11071177.
- [28] Jianyu Pang et al. “Application of Novel Transcription Factor Machine Learning Model and Targeted Drug Combination Therapy Strategy in Triple Negative Breast Cancer”. In: *International Journal of Molecular Sciences* 24.17 (Aug. 31, 2023), p. 13497. ISSN: 1422-0067. DOI: 10.3390/ijms241713497. URL: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10487460/> (visited on 12/06/2024).
- [29] M. J. D. Powell. “A fast algorithm for nonlinearly constrained optimization calculations”. In: *Numerical Analysis*. Ed. by G. A. Watson. Vol. 630. Series Title: Lecture Notes in Mathematics. Berlin, Heidelberg: Springer Berlin Heidelberg, 1978, pp. 144–157. ISBN: 978-3-540-08538-6 978-3-540-35972-2. DOI: 10.1007/BFb0067703. URL: <http://link.springer.com/10.1007/BFb0067703> (visited on 11/21/2024).
- [30] *Practical Methods of Optimization, 2nd Edition* — Wiley. Wiley.com. URL: <https://www.wiley.com/en-sg/Practical+Methods+of+Optimization%2C+2nd+Edition-p-9780471494638> (visited on 12/02/2024).
- [31] “The Differential Evolution Algorithm”. In: *Differential Evolution: A Practical Approach to Global Optimization*. Ed. by Kenneth V. Price, Rainer M. Storn, and Jouni A. Lampinen. Berlin, Heidelberg: Springer, 2005, pp. 37–134. ISBN: 978-3-540-31306-9. DOI: 10.1007/3-540-31306-0\_2. URL: [https://doi.org/10.1007/3-540-31306-0\\_2](https://doi.org/10.1007/3-540-31306-0_2) (visited on 11/25/2024).
- [32] Cristina C. Santini et al. “Global view of the RAF-MEK-ERK module and its immediate downstream effectors”. In: *Scientific Reports* 9.1 (July 26, 2019). Publisher: Nature Publishing Group, p. 10865. ISSN: 2045-2322. DOI: 10.1038/s41598-019-47245-x. URL: <https://www.nature.com/articles/s41598-019-47245-x> (visited on 12/02/2024).
- [33] Klaus Schittkowski. “The nonlinear programming method of Wilson, Han, and Powell with an augmented Lagrangian type line search function”. In: *Numerische Mathematik* 38.1 (Feb. 1, 1982), pp. 83–114. ISSN: 0945-3245. DOI: 10.1007/BF01395810. URL: <https://doi.org/10.1007/BF01395810> (visited on 11/21/2024).
- [34] Klaus Schittkowski. “The nonlinear programming method of Wilson, Han, and Powell with an augmented Lagrangian type line search function”. In: *Numerische Mathematik* 38.1 (Feb. 1, 1982), pp. 115–127. ISSN: 0945-3245. DOI: 10.1007/BF01395811. URL: <https://doi.org/10.1007/BF01395811> (visited on 11/21/2024).

- 
- [35] Robert J. Sims, Rimma Belotserkovskaya, and Danny Reinberg. “Elongation by RNA polymerase II: the short and long of it”. In: *Genes & Development* 18.20 (Oct. 15, 2004). Company: Cold Spring Harbor Laboratory Press Distributor: Cold Spring Harbor Laboratory Press Institution: Cold Spring Harbor Laboratory Press Label: Cold Spring Harbor Laboratory Press Publisher: Cold Spring Harbor Lab, pp. 2437–2468. ISSN: 0890-9369, 1549-5477. DOI: 10.1101/gad.1235904. URL: <http://genesdev.cshlp.org/content/18/20/2437> (visited on 12/03/2024).
- [36] Alina Sîrbu. “Gene regulatory network modelling with evolutionary algorithms -an integrative approach”. doctoral. Dublin City University, Nov. 2011. URL: <https://doras.dcu.ie/16597/> (visited on 12/03/2024).
- [37] N. Srinivas and Kalyanmoy Deb. “Multiobjective Optimization Using Nondominated Sorting in Genetic Algorithms”. In: *Evolutionary Computation* 2.3 (Sept. 1994). Conference Name: Evolutionary Computation, pp. 221–248. ISSN: 1063-6560. DOI: 10.1162/evco.1994.2.3.221. URL: <https://ieeexplore.ieee.org/abstract/document/6791727> (visited on 11/26/2024).
- [38] Yogesh R. Suryawanashi et al. “T-independent response mediated by oncolytic tanapoxvirus recombinants expressing interleukin-2 and monocyte chemoattractant protein-1 suppresses human triple negative breast tumors”. In: *Medical Oncology* 34.6 (May 2, 2017), p. 112. ISSN: 1559-131X. DOI: 10.1007/s12032-017-0973-7. URL: <https://doi.org/10.1007/s12032-017-0973-7> (visited on 12/06/2024).
- [39] Pauli Virtanen et al. “SciPy 1.0: fundamental algorithms for scientific computing in Python”. In: *Nature Methods* 17.3 (Mar. 2020). Publisher: Nature Publishing Group, pp. 261–272. ISSN: 1548-7105. DOI: 10.1038/s41592-019-0686-2. URL: <https://www.nature.com/articles/s41592-019-0686-2> (visited on 12/02/2024).
- [40] Xia Wan, Monireh Marsafari, and Peng Xu. “Engineering metabolite-responsive transcriptional factors to sense small molecules in eukaryotes: current state and perspectives”. In: *Microbial Cell Factories* 18.1 (Dec. 2019). Number: 1 Publisher: BioMed Central, pp. 1–13. ISSN: 1475-2859. DOI: 10.1186/s12934-019-1111-3. URL: <https://microbialcellfactories.biomedcentral.com/articles/10.1186/s12934-019-1111-3> (visited on 12/06/2024).
- [41] A. J. Whitmarsh and R. J. Davis\*. “Regulation of transcription factor function by phosphorylation”. In: *Cellular and Molecular Life Sciences CMLS* 57.8 (Aug. 1, 2000), pp. 1172–1183. ISSN: 1420-9071. DOI: 10.1007/PL00000757. URL: <https://doi.org/10.1007/PL00000757> (visited on 12/03/2024).