appendix A Further reading and resources

A.1 Competitive programming

There are a number of great resources available for learning algorithms. I highly recommend Steven Halim's *Competitive Programming* book, in addition to the classic *Algorithm Design Manual* by Steven Skiena and *Introduction to Algorithms* by Thomas H. Cormen et al.

There are a number of great coding challenge websites some of which are listed here:

- LeetCode: https://leetcode.com
- TopCoder: https://www.topcoder.com
- CodeForces: https://codeforces.com
- HackerRank: https://www.hackerrank.com
- GeeksForGeeks: https://www.geeksforgeeks.org
- uVAOnlineJudge: https://onlinejudge.org

I hope you find these resources helpful in your journey to becoming a competitive programmer.

A.2 Recommended books

Machine learning mastery requires a solid understanding of fundamentals. New ML algorithms are designed by building on the fundamentals or combining new trends with classical results. This section highlights some of the key machine learning books that anyone who strives to get better in the field must read. The books summarized in figure A.1 range from theoretical to applied and span the topics of statistics, machine learning, optimization, information theory, algorithms, and data structures.

Figure A.1 Recommended books

I highly recommend the following books, as shown in figure A.1, on your journey to machine learning mastery:

- Kevin Murphy, *Machine Learning: A Probabilistic Perspective*, MIT Press, 2012
- Christopher Bishop, *Patter Recognition and Machine Learning*, Springer, 2011
- David MacKay, *Information Theory, Inference, and Learning Algorithms*, Cambridge University Press, 2003
- Steven Skiena, *Algorithm Design Manual*, Springer, 2011
- Thomas Cormen, Charles Leiserson, Ronald Rivest, and Clifford Stein, *Introduction to Algorithms*, MIT Press, 2009
- Steven Halim, *Competitive Programming*, lulu, 2013
- Francois Chollet, *Deep Learning with Python*, Manning Publications, 2017
- Trevor Hastie, Robert Tibshirani, and Jerome Friedman, *The Elements of Statistical Learning: Data Mining, Inference, and Prediction*, Springer, 2016
- Stephen Boyd and Lieven Vandenberghe, *Convex Optimization*, Cambridge University Press, 2004
- Thomas Cover and Joy A. Thomas, *Elements of Information Theory*, Wiley, 1991

A.3 Research conferences

The field of machine learning is rapidly evolving, and the best way to stay on top of latest research is by reviewing conference papers. This section summarizes the top conferences in the area of machine learning, computer vision, natural language processing, and theoretical computer science.

A.3.1 Machine learning

- NeurIPS: Neural Information Processing Systems: https://nips.cc/
- ICLR: International Conference on Learning Representations: https://iclr.cc/
- ICML: International Conference on Machine Learning: https://icml.cc/
- AISTATS: Artificial Intelligence and Statistics: https://www.aistats.org/
- UAI: Uncertainty in Artificial Intelligence: https://www.auai.org/

A.3.2 Computer vision

- CVPR: Computer Vision and Pattern Recognition
- ICCV: International Conference on Computer Vision
- ECCV: European Conference on Computer Vision

A.3.3 Natural language processing

- EMNLP: Empirical Methods in Natural Language Processing
- NAACL: North American chapter of the ACL

A.3.4 Theoretical computer science

- STOC: ACM Symposium on Theory of Computing: http://acm-stoc.org/
- FOCS: IEEE Symposium on Foundations of Computer Science: http://ieee-focs.org/

To be an expert in your area, it's important to stay current with latest research. All conference proceedings are available online on their official websites as well as on arxiv.org. To make the volume of research papers manageable and to more easily track latest arXiv papers, readers can visit http://www.arxiv-sanity.com/. For a quick overview and AI conference deadlines, visit https://aideadlin.es/?sub=ML,CV,NLP,RO,SP. Finally, reproducible state-of-the-art machine learning results can be found at https://paperswithcode.com/.