Machine Learning Mastery
Resource Guide

Jason Brownlee

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Introduction

Hi there, my name is Jason from **Machine Learning Mastery**. Thanks for downloading my Resource Guide.

I have worked hard to collect and list only the best resources that will help you jump-start your journey towards machine learning mastery. I've categorized the resources into main themes such as books, communities, software and competitions.

I'm certain you will find great value in the resources listed in this guide. Take your time and select a medium or resource type you prefer and start working through resources one-by-one. Try not to overload yourself. Remember to think hard about what you want from a resource and actively take notes.

I'm interested to hear what resources you use, send me an email and let me know via `jason@MachineLearningMastery.com` or visit my site `http://MachineLearningMastery.com` and leave a comment. I hope to hear from you soon.

Jason Brownlee.

Books

You don't need all the books, just the right book for you on your journey. Pick one book and read it cover-to-cover.

Beginner Books

If you are new to machine learning and thinking about data, these books are for you.

- Predictive Analytics: The Power to Predict Who Will Click, Buy, Lie, or Die
  http://amzn.to/1RwQpwa
- Data Smart: Using Data Science to Transform Information into Insight
  http://amzn.to/1UMunsa
- Data Science for Business: What You Need to Know about Data Mining and Data-Analytic Thinking
  http://amzn.to/1UMumEA

Practical Books

If you are a programmer or engineer and are looking to get things done, these books are for you:

- Applied Predictive Modeling
  http://amzn.to/1RWter7
- Data Science from Scratch: First Principles with Python
  http://amzn.to/1RFLZQq
- An Introduction to Statistical Learning: With Applications in R
  http://amzn.to/1UMuu7f
- Data Mining: Practical Machine Learning Tools and Techniques
  http://amzn.to/1PPwPpF

Textbooks

Sometimes you need to dive into the theory. Below are my recommended machine learning textbooks.

- The Elements of Statistical Learning: Data Mining, Inference, and Prediction
  http://amzn.to/1Tsz5cZ
- Machine Learning: The Art and Science of Algorithms that Make Sense of Data
  http://amzn.to/1PPwW4j
- Machine Learning: A Probabilistic Perspective
  http://amzn.to/2210zqD

Communities

You will have a lot of questions along your journey toward machine learning mastery and there are excellent places where machine learning experts can answer those questions for you, if you know where to look. It is very likely your question has been asked and answered before. Try searching for it on each community before posting.

Stack Exchange

The stack exchange sites are question and answer communities, so they are targeted towards problem solving. You can ask the specific questions you have, answer questions to which you know the answer and (my favorite) read questions and answers to discover new methods and perspectives. There are four sites I like to dip into:

- Cross Validated: http://stats.stackexchange.com/
- Quantitative Finance: http://quant.stackexchange.com/
- Programmers: http://programmers.stackexchange.com/
- Stack Overflow: http://stackoverflow.com/

Reddit

Reddit is a community of communities called subreddits. A given subreddit can be question and answer site, a link sharing site or (more typically) a mix of the two. A few subreddits I frequent include:

- Machine Learning: https://www.reddit.com/r/machinelearning
- Statistics: https://www.reddit.com/r/statistics
- Data Science: https://www.reddit.com/r/datascience
- Big Data: https://www.reddit.com/r/bigdata

Quora

Quora is a question and answer site that is divided into topics, much like reddit but only questions and answers. The questions are typically good and the answers high quality. Unlike the stack exchange sites, they are typically less technical, less problem focused and more meaty. A few Quora topics I frequent include:

- Machine Learning: https://www.quora.com/topic/Machine-Learning
- Statistics: https://www.quora.com/topic/Statistics-academic-discipline
- Data Mining: https://www.quora.com/topic/Data-Mining
- Data Science: https://www.quora.com/topic/Data-Science

Software

There are a lot of software and libraries that you could use for machine learning. Below are some best-of-breed software that are useful for learning and practicing machine learning.

Beginners

If you are a beginner, I recommend the WEKA platform. It provides a graphical user interface that maps nicely onto the applied machine learning process for projects. It also provides a nice Java API if you need to go deeper.
Learn more about WEKA here: http://www.cs.waikato.ac.nz/ml/weka/

Intermediate

If you are an intermediate machine learning practitioner or looking for a platform for application development then I recommend the Python ecosystem with scikit-learn built on top of SciPy (NumPy, Matplotlib and Pandas).
Learn more about scikit-learn here: http://scikit-learn.org/stable/

Advanced

If you are an advanced machine learning practitioner or looking for a platform for research and development then I would recommend the R ecosystem with a focus on the caret package.
Learn more about the caret package for R here: http://caret.r-forge.r-project.org/

Competitions

Competitive machine learning can be a great way to learn new data preparation and modelling techniques. People involved in competitive machine learning can provide a wealth of tips, resources and different ways of approaching the same problem. The competitions can also be a great way to test out methods and ideas.

- Kaggle: https://www.kaggle.com/
- TunedIT: http://tunedit.org/
- CrowdAnalytix: https://www.crowdanalytix.com/
- InnoCentive: http://www.innocentive.com/
- Challenge.gov: https://www.challenge.gov/list/
- KDDCup: http://www.kdd.org/kdd-cup

Connect With Me

Hey, my name is Jason. I'm from Australia and I have a Masters and Ph.D. in Artificial Intelligence. I've written books on algorithms, consulted for startups and I work on tropical cyclone forecasting systems. I get a lot of satisfaction helping developers make their start and kick some ass with machine learning.

I am married with a young son and in my free time I like to read books, code, write articles and participate in machine learning competitions. You can learn more about me and my story here: http://machinelearningmastery.com/about/

Reach out to me, I'd love to hear from you and your goals with machine learning. Contact me via email on `jason@MachineLearningMastery.com` and follow me on:

- **LinkedIn**: https://www.linkedin.com/in/jasonbrownlee
- **Twitter**: http://twitter.com/TeachTheMachine
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