

Areas of focus, chapters	Speeding up the next AI winter Am I better off becoming a data scientist? Pareto Principle and statisticians My MOOCs Making ML code baristas Weak AI and the two principle ways to fish.	Solution strategies Brainstorming - Morphological Analysis - Conversational Agents design How to invent it? Exposition techniques The CFO perspective	ML culture vs Statistics culture Stats @ and the inductive jumps Stats regression I, II, and III Rashomon vs Ocam Razor Embrase dimensionality Mash it up	Data analysis and wrangling Learn and know SQL Fundamental data wrangling operations Pareto Principle manifests everywhere Ability to read Mosaic plots	Software Engineering skills Software Architecture methodologies Unit testing Scaffolding Data as a primary deliverable Why Model Management	Fundamental ML algorithms Nearest Neighbors Clustering Naive Bayesian Classifiers Dimension reduction Decision trees Apriori ROC
Slides, principles, rules						
The perfect data scientist The data scientists breakdown	Cartoon (I am close minded though) The four types.The main two groups. The target audience.					
Data scientist roles and positions	Diagram: rapid prototyping for a team.			Data driven journalism.	Making a product: space shuttle design.	
Jumping into the water before learning how to swim		How can be you be ignorant in a smart way?			How can you be ignorant in a smart way?	
There is no substitute for knowledge			In order to know your mountain climb the one next to it.	Dimension reduction: the 103 are great ideas, and the great conversation.		
Work on projects that stir the blood of men	The failure of these kind of projects would speed-up the coming of the next AI winter.	These kind of projects bring many solvers. What happens in Vegas stays on Facebook.				
Making analogies a lot and often		Explanation of approaches.	Core modeling ability.			Explanations of results.
Know your mountain by climbing the one next to it			Standard usage.	Similarities between data. E.g. earthquakes and terrorist acts.	There is not need to depend on one programming language, library, or system.	Know how the algorithms differ and are alike.
Make graphs of associations	It is a fetish because of Google and Facebook.	Easy to understand and produce recommendation explanations.		Less data wrangling.		Additional algorithms are required.
The best quality of a mathematician is give examples and counter examples					Use counter examples for unit testing of ML packages.	Systematically shown in the concrete know-how part of the book.
Search for the invariant	Make ML workflows	The CFO perspective is universal: gives at least the 2nd most questions	Statisticians want to apply the same methods. ML neural nets engineers try to do the same.	What the assumptions? Do they always hold?	The main thinking process to make software architecture designs.	See the ML workflows.
Data Science is third best mathematical modeling methodology		Do the proper mathematical model and calibrate it with the data. Make scenario play-outs.	Replacing understanding with data analysis and data patterns.		Use Modelica.	
Adopt and apply the optimization perspective	This is one of things that took AI out of the last winter.	The CFO perspective. Apply to satisfaction models. Backcasting.	ML and Statistics of course use optimization in variety of ways.			
Thinking technologically						
Form a sense of data ownership				Everyone will ask questions about the data general characteristics.	Useful for scaffolding tasks.	Can determine which algorithms when to apply.
Find and explain outliers				On of the best was learn the data.	Handle corner cases well.	
Pareto principle everywhere	Few make meaningful contributions.	The “main rocks” approach.	Statisticians are more likely to be in the long tail	Useful to reduce the data.		
Crowdsourcing the intelligence						
Mash it up						
Eat your own dog food	Analyzing the analyzers. Etc.	Potential exponential benefit.		Do you predict your personal cash flows?	Core principle of SE at scale.A good way to test and harden the implementations.	