Learning Data Science

*Become a Great Explainer
to be a Great Data Scientist*

Mark Hutchinson

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About me…

That's what I do. I drink and I know things.

Mark Hutchinson

- Senior software instructor
- Consultant
- Frequent conference presenter
- Question savant
- Sensei

Welcome - Genesis

- Pragmatic Thinking and Learning
  - SMART
- Diversify Your Toolbox
- kdNuggets article on Feynman technique
- neo4j conference video
- Dan Kelly story

Agenda

- Introduction
- Knowledge vs. Skills
- Learning Methods
- Exercises
- Conclusion

Introduction

- Traditional Data Science path
    1. Study statistics
    2. Learn ML
    3. Learn Tool/Language
    4. Apply ML using tool/language
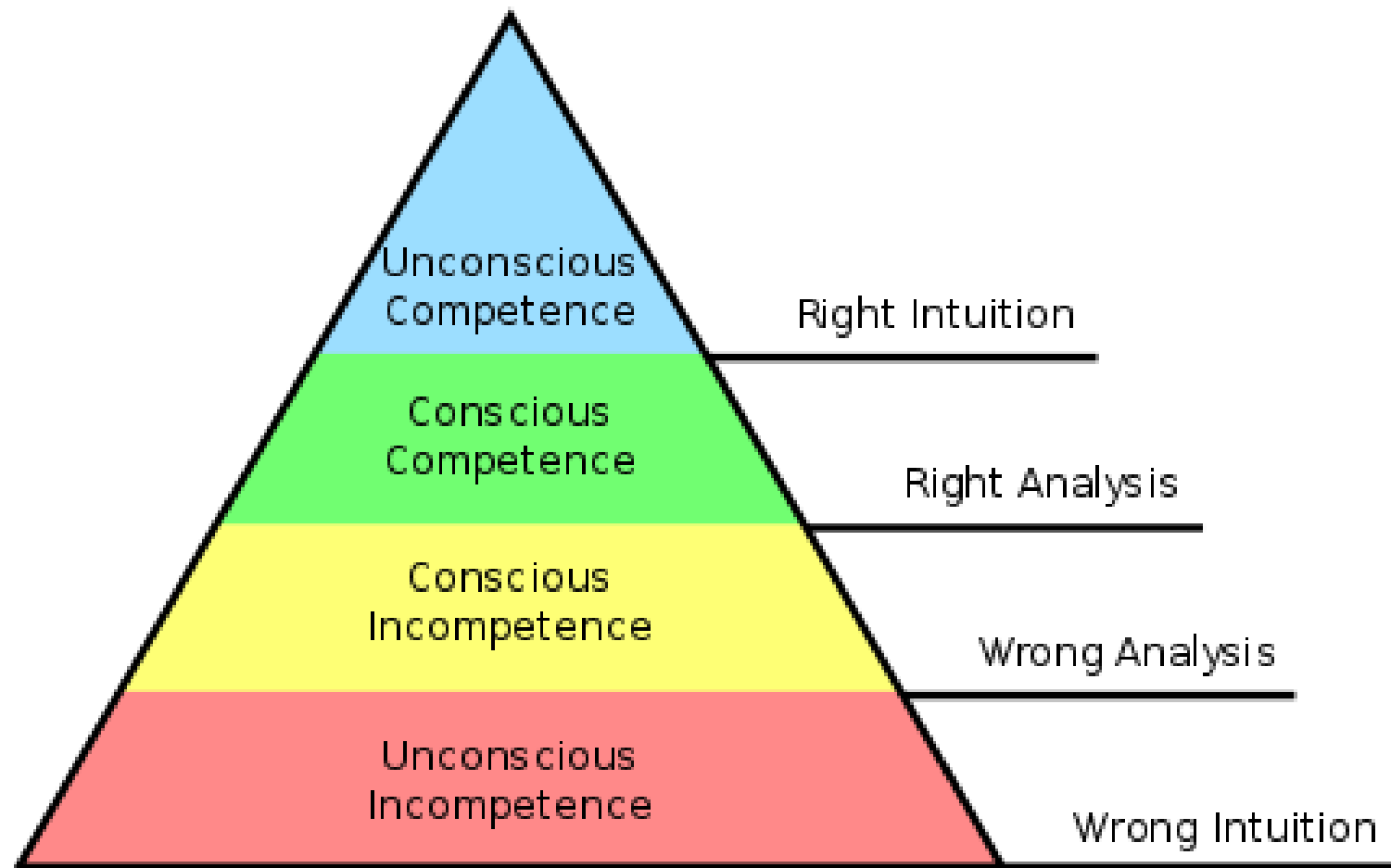   5. Study Visualization

Introduction

- Feynman technique
    1. Narrow down topic
    2. Explain the topic
    3. Demonstrate how it works
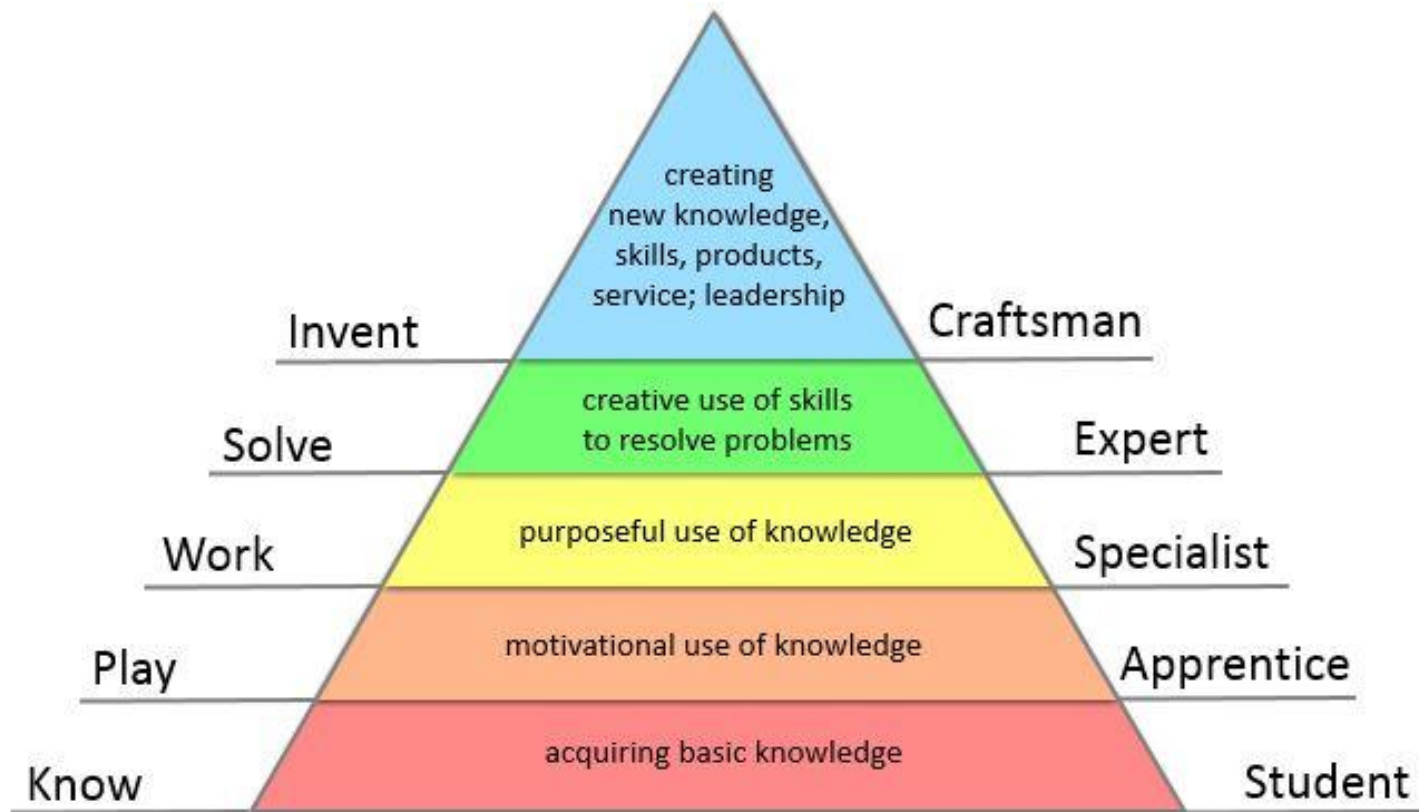   4. Assess and refine

Skills & Competency

- Dreyfus model
- Four Competency Stages: UI –> CI –> CC –> UC
  - Dunning-Kruger
  - You can't teach from UC

Competence Hierarchy

Unconscious Competence — Right Intuition

Conscious Competence — Right Analysis

Conscious Incompetence — Wrong Analysis

Unconscious Incompetence — Wrong Intuition

Hierarchy of Competence

Skill Hierarchy

Hierarchy of Skills

I. Kokcharov © 2015

Knowledge vs. Skills

- Knowledge implies understanding
  - Differences
  - Sameness
  - Paths up the mountain
  - Metaphors rock
- Can you teach it to others?
- Fighting the Imposter Syndrome

Learning Sources

- Meetups, conferences, classes, coffee/lunch with colleagues
- Ask questions
- Videos
- Web sites
- Online courses

Tools

- Mind-mapping
  - Your introduction to graphs
- Wiki
- Browser bookmarking and folders
- REPL & Jupyter notebook
- Testing code

Exercises

- Groups of 2-4 people
- Lots of talking
- Simply explain something you already know
- Tackle something you don't know
- Table nominates 1-2 explanation(s)
- 24/7 Lectures

Your Journey

- *Become a 'Great Explainer' to become a Great Data Scientist* – Venkat Raman
- Inform and Sway
  - Colleagues
  - Bosses, Clients, or VCs
- Write articles
- A remedy for impostor syndrome

Conclusion

- Discount code: **think2018**
- Questions?
- References on github
  - github.com/aikimark/AnalyticsForward2018
- Thank you

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