Metaheuristics for Smart Manufacturing
0. Organization

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course book

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- Received funding from sources such as 国家自然科学基金委员会, 中国科学术大学青年创新基金, 中国博士后科学基金会, and 中国科学院.

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    - All discussed algorithms are actually implemented (I will show code snippets)
    - All algorithms are actually applied to a real problem and real results are discussed
    - All program code is available at http://www.github.com/thomasWeise/aitoa-code

Course Book

The contents of this course are available as free electronic book *"An Introduction to Optimization Algorithms"* [1] at http://thomasweise.github.io/aitoa in pdf, html, azw3, and epub format, created with our bookbuildeR tool chain.

An Introduction to Optimization Algorithms

Thomas Weise

2019-07-26
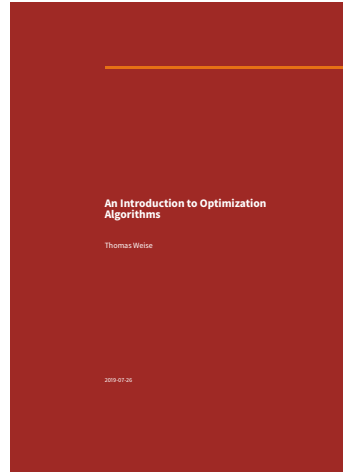
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- We will then think about which components a typical application of *optimization* has.
- We will pick this typical application and step-by-step apply a variety of optimization algorithms to it.
- We start with trivial and stupid algorithms.
- And then we step-by-step identify their shortcomings and progress to more advanced algorithms.
- Finally, we discuss how we can even decide whether one algorithm is better or another one (for a specific problem).

谢谢

Thank you

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Caspar David Friedrich, "Der Wanderer über dem Nebelmeer", 1818
http://en.wikipedia.org/wiki/Wanderer_above_the_Sea_of_Fog

Bibliography I

1. Thomas Weise. *An Introduction to Optimization Algorithms*. Institute of Applied Optimization (IAO), Faculty of Computer Science and Technology, Hefei University, Hefei, Anhui, China, 2019-06-25 edition, 2018–2019. URL `http://thomasweise.github.io/aitoa/`. see also [2].
2. Thomas Weise. *Global Optimization Algorithms – Theory and Application*. it-weise.de (self-published), Germany, 2009. URL `http://www.it-weise.de/projects/book.pdf`.