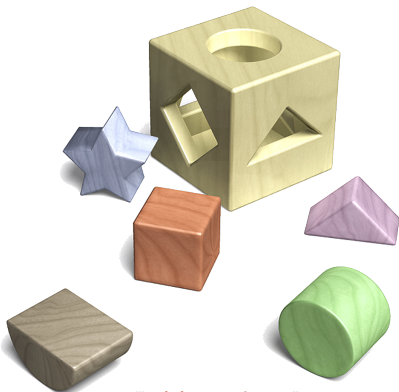


## Programming Machine Ethics – Introduction

Steffen Hölldobler

International Center for Computational Logic  
Technische Universität Dresden  
Germany

- ▶ Introduction
- ▶ Weak Completion Semantics
- ▶ Programming Machine Ethics
- ▶ Machine Ethics  
under Weak Completion Semantics



*"Logic is everywhere ..."*



## Programming Machine Ethics

- ▶ Luíz Moniz Pereira and Ari Saptawijaya: Programming Machine Ethics Studies in Applied Philosophy, Epistemology and Rational Ethic. Volume 26 Springer: 2016
- ▶ <https://link.springer.com/article/10.1007/s00146-017-0690-y>
- ▶ **The first goal of this lecture is to read and understand the book**



## Weak Completion Semantics

- ▶ **Is a new cognitive theory based on**
  - ▶ weakly completed logic programs
  - ▶ 3-valued Łukasiewicz logic
  - ▶ minimal models
  - ▶ a semantic operator computing these models
  - ▶ abduction
  - ▶ connectionist realization
- ▶ **The second goal of this lecture is to encode some of the morality examples under the weak completion semantics**



## Preliminary Time Frame

- ▶ **3. & 10.4. Lecture WCS**
- ▶ 17.4. Easter Monday
- ▶ **24.4. Reading Class**
- ▶ 1.5. Holiday
- ▶ **8.& 15.5. Reading Class**
- ▶ **22.5. Exercises WCS**
- ▶ **29.5. Reading Class**
- ▶ 5.6. Semester Break
- ▶ **12.6. Reading Class**
- ▶ **19.6. Practical Work**
- ▶ **26.6. Presentations & Reading Class**
- ▶ **3.7. Practical Work**
- ▶ **10.7. Presentations**



## First Assignments

- ▶ **Please read the review by Robert Kowalski**
- ▶ **Please read Chapters 1-3 until or over the Easter Holidays**

