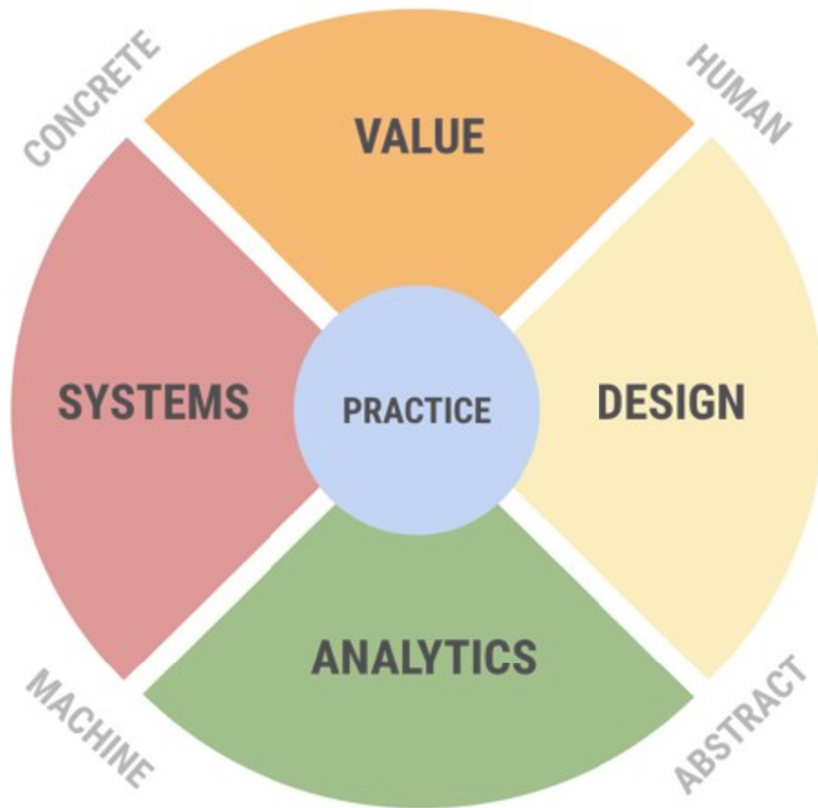




# **What is Data Science?**

# 4+1 Model of Data Science



**Four Components** join to form **Practical Applications**:

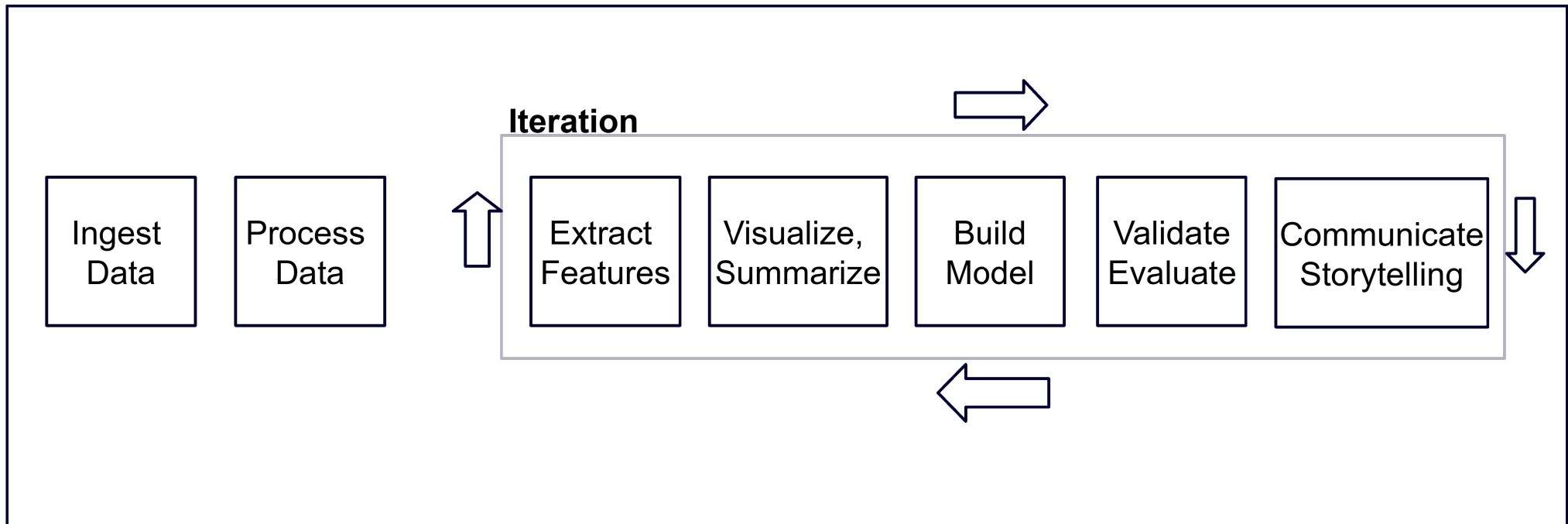
**Value** includes ethics, benefits

**Design** includes data design, communication of ideas and results

**Analytics** uses tools like mathematics and statistics

**Systems** draws from engineering, computer science

# The Data Science Pipeline



# Data Science Promise and Perils

**Used properly and carefully, data science can enable great things:**

- improving and optimizing systems, quality of life
- lowering costs, increasing benefits
- automating difficult and mundane tasks
- creating new products, opportunities

**...but without proper care and understanding, it can**

- amplify unfairness and bias
- cause systematic harm across all dimensions