

# **Decision Analysis Fundamentals**

#### Introduction to decision analysis

- What makes a good decision?
- History of decision analysis
- Problem solving
- Creative thinking
- Data science vs decision analysis
- Bulletproof Problem Solving
- OODA loop
- Conducting research

#### Uncertainty

- Definition and categorization
- Thinking probabilistically
- Expected value
- Visualizing uncertainty
- Utility curves
- Psychological biases

#### Statistical modelling and inference

- Correlation
- Regression
- Monte Carlo methods

### **Evaluating options**

- Forced ranking
- Decision matrices

• Multi-criteria decision analysis Decision trees

#### **Forecasting**

- Time series
- Expert judgement
- Prediction markets
- Scenario planning

# Interactive decision-making

- Stakeholder analysis
- Game theory
- Confrontation analysis

# **Systems thinking**

- Feedback loops
- Influence diagrams
- System dynamics
- Strategy mapping

# **Group decision making**

- Wisdom of crowds
- Delphi method
- Voting