

Universal Cognitive Logic (UCL)

Pu Justin Scarfy Yang

July 11, 2024

Definitions and Basic Concepts

- **Cognitive Objects:** Objects representing cognitive states, processes, or structures.
- **Cognitive Morphisms:** Morphisms representing transformations or interactions between cognitive objects.
- **Cognitive Functors:** Functors operating on cognitive objects, preserving their cognitive properties.

Quantification in UCL

$\exists(\text{Cognitive Object})$: There exists a cognitive object C
 $\forall(\text{Cognitive Object})$: For all cognitive objects C
 $\exists(\text{Cognitive Morphism})$: There exists a cognitive morphism f
 $\forall(\text{Cognitive Morphism})$: For all cognitive morphisms f
 \vdots

Logical Connectives and Operations

$\text{AND}_{\text{UCL}} : \wedge$ (conjunction of cognitive objects)
 $\text{OR}_{\text{UCL}} : \vee$ (disjunction of cognitive objects)
 $\text{NOT}_{\text{UCL}} : \neg$ (negation of cognitive objects)
 $\text{IMPLIES}_{\text{UCL}} : \Rightarrow$ (implication between cognitive objects)

Example Statements in UCL

$\forall(C \in \text{Cognitive Object})(\exists(f : C \rightarrow D) : f \text{ is a cognitive morphism})$