DEVELOPMENT OF AXIOMATIZATION
FOR THE CHOLANGIOCARCINOMA ONTOLOGY
USING COMMON LOGIC INTERCHANGE FORMAT

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We are developing a first-order logic axiomatization using the Common Logic Interchange Format (CLIF) with negation, equality, and multi-argument predicates.

To render the CCAO fully compatible with Basic Formal Ontology 2020 (BFO2020), and to allow for reasoning that goes beyond mere classification.

CCAO uses all axioms, subset, and style of CLIF from BFO2020.

CCAO is expanded to include CLIF-based axioms for relevant terms from

- BFO-compatible ontologies such as
  - The Information Artifact Ontology (IAO)
  - Ontology for General Medical Science (OGMS)
- Non-BFO-compatible ontologies such as
  - SNOMED-CT
Input

- CCAO and BFO axioms
- A BFO2020-style CLIF parser
- Clausal form (CF)
- Conjunctive normal form (CNF)
- Kowalski-rules using standard Skolemization
- A BFO2020-style CLIF reasoner
- Term expansion based on BFO2020 Axioms

Outputs

- CCAO and BFO axioms
- A BFO2020-style CLIF parser
- Clausal form (CF)
- Conjunctive normal form (CNF)
- Kowalski-rules using standard Skolemization
- A BFO2020-style CLIF reasoner
- Term expansion based on BFO2020 Axioms

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