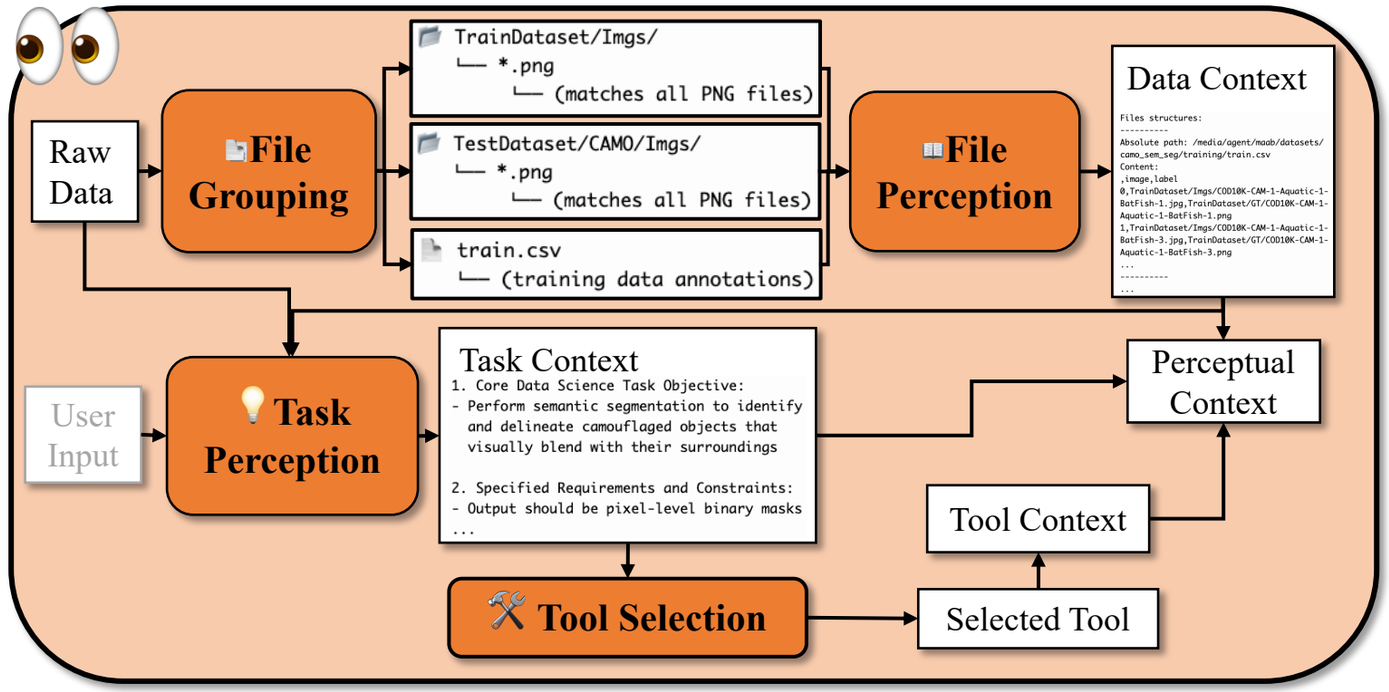
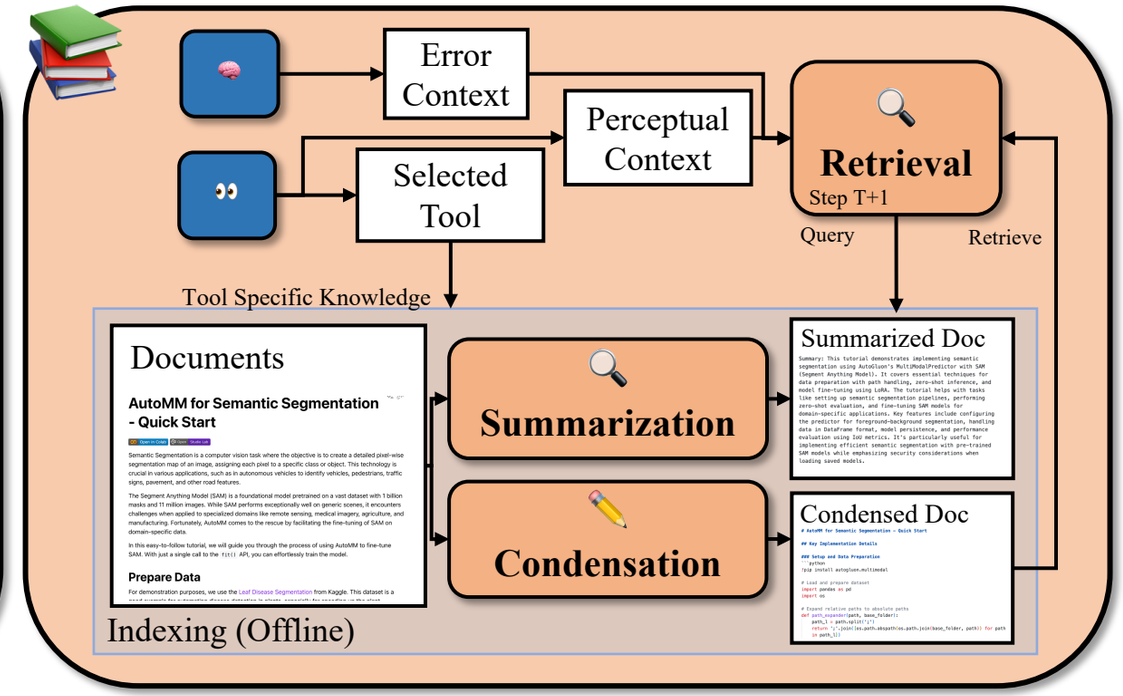
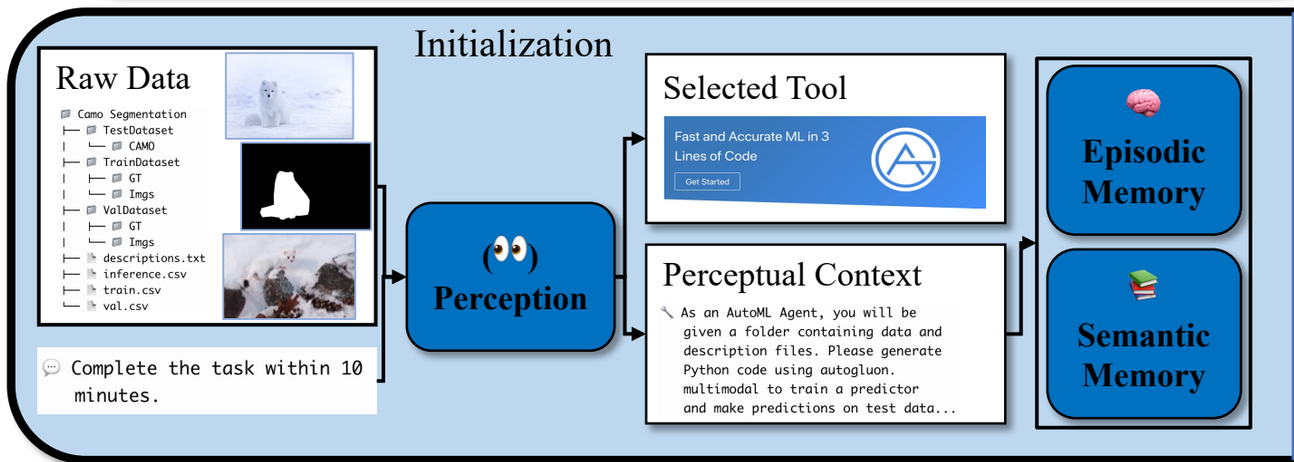
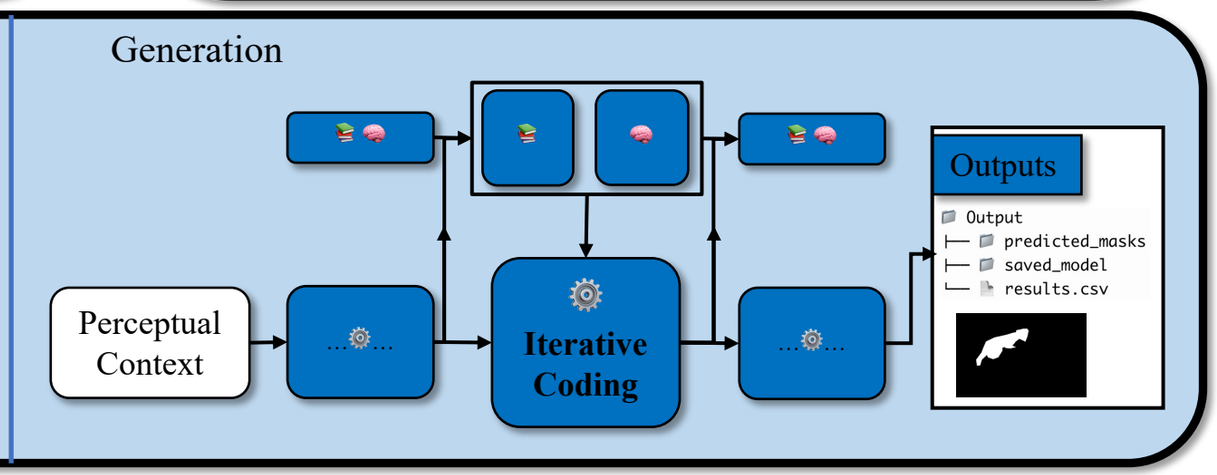

Raw Data
File Grouping
TrainDataset/Imgs/
└── *.png
└── (matches all PNG files)
TestDataset/CAMO/Imgs/
└── *.png
└── (matches all PNG files)
train.csv
└── (training data annotations)
File Perception
Data Context
Files structures:

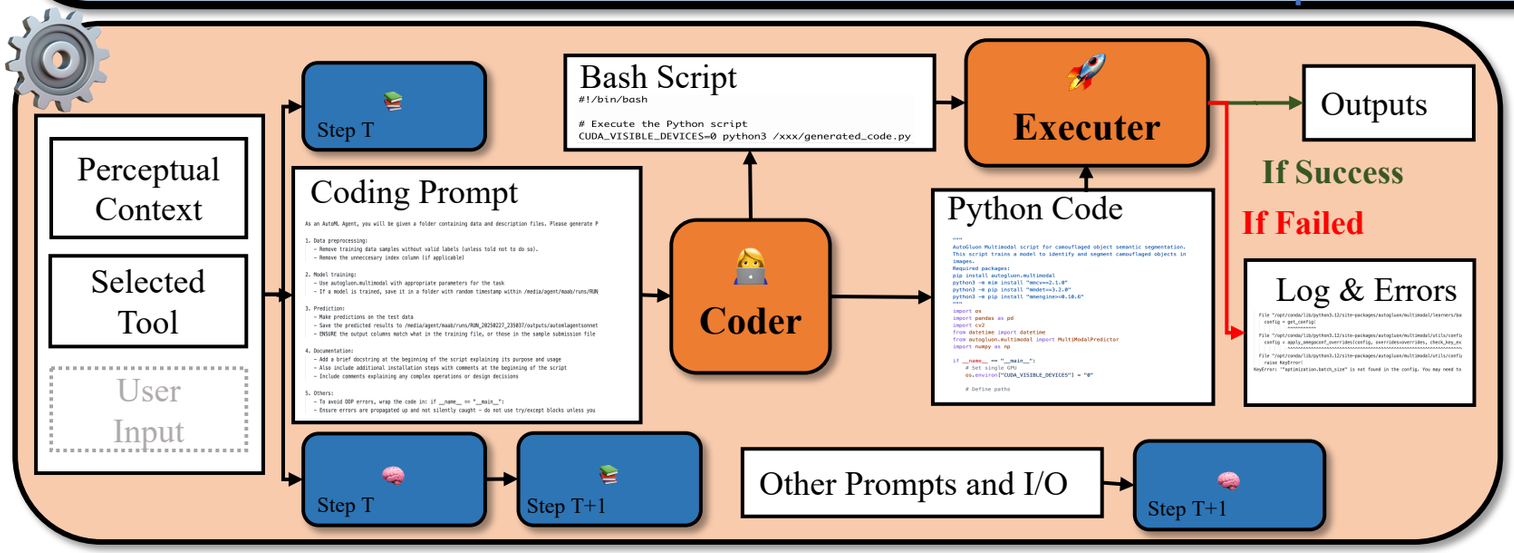
Absolute path: /media/agent/maab/datasets/camo_sem_seg/training/train.csv
Content:
,image,label
0,TrainDataset/Imgs/COD10K-CAM-1-Aquatic-1-BatFish-1.jpg,TrainDataset/GT/COD10K-CAM-1-Aquatic-1-BatFish-1.png
1,TrainDataset/Imgs/COD10K-CAM-1-Aquatic-1-BatFish-3.jpg,TrainDataset/GT/COD10K-CAM-1-Aquatic-1-BatFish-3.png
...

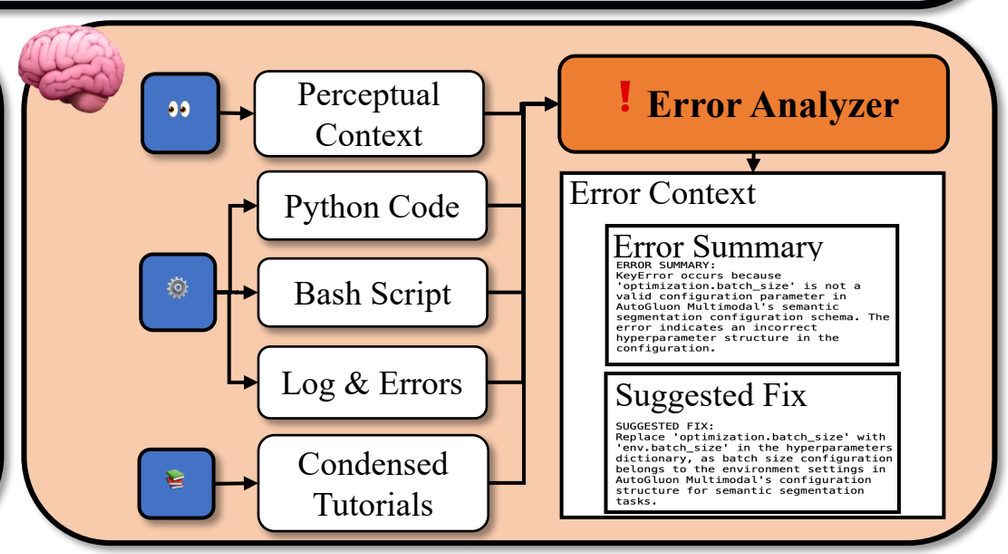
...
User Input
Task Perception
Task Context
1. Core Data Science Task Objective:
- Perform semantic segmentation to identify and delineate camouflaged objects that visually blend with their surroundings
2. Specified Requirements and Constraints:
- Output should be pixel-level binary masks
...
Perceptual Context
Tool Context
Tool Selection
Selected Tool


Error Context
Perceptual Context
Selected Tool
Retrieval
Step T+1
Query
Retrieve
Tool Specific Knowledge
Documents
AutoMM for Semantic Segmentation - Quick Start
Prepare Data
Summarization
Summarized Doc
Condensation
Condensed Doc
Indexing (Offline)


Initialization
Raw Data
Camo Segmentation
TestDataset
CAMO
TrainDataset
GT
Imgs
ValDataset
GT
Imgs
descriptions.txt
inference.csv
train.csv
val.csv
Complete the task within 10 minutes.
Perception
Selected Tool
Fast and Accurate ML in 3 Lines of Code
Get Started
Perceptual Context
As an AutoML Agent, you will be given a folder containing data and description files. Please generate Python code using autogluon.multimodal to train a predictor and make predictions on test data...
Episodic Memory
Semantic Memory


Generation
Perceptual Context
Iterative Coding
Outputs
Output
predicted_masks
saved_model
results.csv


Perceptual Context
Selected Tool
User Input
Step T
Coding Prompt
As an AutoML Agent, you will be given a folder containing data and description files. Please generate P
1. Data preprocessing:
- Remove training data samples without valid labels (unless told not to do so).
- Remove the unnecessary index column (if applicable)
2. Model training:
- Use autogluon.multimodal with appropriate parameters for the task
- If a model is trained, save it in a folder with random timestamp within /media/agent/maab/runs/RUN
3. Prediction:
- Make predictions on the test data
- Save the predicted results to /media/agent/maab/runs/RUN_20250227_235037/outputs/automlagentsonnet
- ENSURE the output columns match what in the training file, or those in the sample submission file
4. Documentation:
- Add a brief docstring at the beginning of the script explaining its purpose and usage
- Also include additional installation steps with comments at the beginning of the script
- Include comments explaining any complex operations or design decisions
5. Others:
- To avoid DDP errors, wrap the code in: if __name__ == "__main__":
- Ensure errors are propagated up and not silently caught - do not use try/except blocks unless you
Coder
Bash Script
#!/bin/bash
# Execute the Python script
CUDA_VISIBLE_DEVICES=0 python3 /xxx/generated_code.py
Executer
Python Code
Outputs
If Success
If Failed
Log & Errors
Step T
Step T+1
Other Prompts and I/O
Step T+1


Perceptual Context
Python Code
Bash Script
Log & Errors
Condensed Tutorials
Error Analyzer
Error Context
Error Summary
ERROR SUMMARY:
KeyError occurs because 'optimization.batch_size' is not a valid configuration parameter in AutoGluon Multimodal's semantic segmentation configuration schema. The error indicates an incorrect hyperparameter structure in the configuration.
Suggested Fix
SUGGESTED FIX:
Replace 'optimization.batch_size' with 'env.batch_size' in the hyperparameters dictionary, as batch size configuration belongs to the environment settings in AutoGluon Multimodal's configuration structure for semantic segmentation tasks.