1需从单篇文献中获取JSON：

{

"algorithm\_entity": {

"algorithm\_id": "Huang2017",

"name": "NeuralSolver",

"title": "A Neural Solver for...",

"year": 2017,

"authors": ["Huang", "Zhang"],

"task": "Math Word Problem",

"dataset": ["Math23K"],

"metrics": ["Accuracy", "F1"],

"architecture": {

"components": ["Encoder", "Decoder"],

"connections": ["Attention"],

"mechanisms": ["Gate"]

},

"methodology": {

"training\_strategy": ["CrossEntropyLoss", "Normalization"],

"parameter\_tuning": ["Adam", "Dropout"]

},

"feature\_processing": ["Tokenization", "Stopword Removal"],

"evolution\_relations": [

{

"from\_paper": "Zhang2016",

"to\_paper": "Huang2017",

"evolution\_type": "Improve",

"structure": "Architecture.Connection",

"detail": "Mechanism",

"evidence": "We improve Zhang et al. by using attention to better align the question with numbers.",

"confidence": 0.92

},

{

"from\_paper": "Roy2015",

"to\_paper": "Huang2017",

"evolution\_type": "Replace",

"structure": "Architecture.Mechanism",

"detail": "Component",

"evidence": "Instead of the template parser in Roy et al., we adopt a fully neural encoder-decoder framework.",

"confidence": 0.89

}

]

}

}

| **字段名（英文）** | **描述** |
| --- | --- |
| evolution\_type | Semantic intent: Improve, Extend, Replace, Optimize |
| structure | Structural dimension of change (e.g., Architecture, Dataset, Methodology) |
| detail | Granularity of change (e.g., Mechanism, Component, Parameter) |
| evidence | Citation context sentence |
| confidence | Extracted relation confidence score (optional) |

判断Evolution Type根据Key words：

|  |  |
| --- | --- |
| **Evolution Category** | **Evolution Feature Expression** |
| Improve | A improves B A refines B  A enhances B A boosts B  A advances B  A increases B  A strengthens B A enriches B  A elevates B |
| Extend | A extends B  A expands B  A builds on B  A enables B  A incorporates B A generalizes B A adapts B  A broadens B  A introduces new capabilities to B |
| Optimize | A optimizes B  A fine-tunes B  A accelerates B  A minimizes resource usage in B A reduces complexity in B  A streamlines B  A stabilizes B  A lowers computational cost of B |
| Replace | A replaces B  A supersedes B A substitutes B A displaces B  A modifies B by replacing components A changes core mechanisms in B  A swaps foundational techniques in B A reconfigures the structure of B |

判断结构主要是通过改进内容：

