```
NLTK NER Response: {'results': [{'entity type': 'ORGANIZATION',
'text': 'Vanderbilt University'}, {'entity_type': 'ORGANIZATION',
'text': 'Vandy'}, {'entity_type': 'ORGANIZATION', 'text':
'Vanderbilt'}, {'entity type': 'ORGANIZATION', 'text': 'VU'}]}
clean entities
[{'entity_type': 'ORGANIZATION', 'text': 'Vanderbilt University'}, {'entity_type': 'ORGANIZATION', 'text': 'Vandy'}, {'entity_type':
'ORGANIZATION', 'text': 'Vanderbilt'}, {'entity_type': 'ORGANIZATION',
'text': 'VU'}]
Entities updated from nltk ner.
Merged Entities: [{'entity_type': 'ORGANIZATION', 'text': 'Vanderbilt
University'}, {'entity_type': 'ORGANIZATION', 'text': 'Vandy'},
{'entity_type': 'ORGANIZATION', 'text': 'Vanderbilt'}, {'entity_type':
'ORGANIZATION', 'text': 'VU'}]
Update Entities Response: {'all entities': [{'entity type':
'ORGANIZATION', 'text': 'Vanderbilt University'}, {'entity_type':
'ORGANIZATION', 'text': 'Vandy'}, {'entity_type': 'ORGANIZATION',
'text': 'Vanderbilt'}, {'entity_type': 'ORGANIZATION', 'text': 'VU'}],
'message': 'Entities updated successfully'}
Trigger post processing
Generating embeddings...
Detect Response: {'results': '{ "results": [{"entity type":
"EDUCATIONAL RECORD", "text": "Valedictorian of my class"}] }'}
Generate Embeddings Response: {'message': 'Embeddings saved to
entity embeddings.csv'}
Clustering UF...
Cluster UF Response: {'results': {'Vanderbilt University':
['Vanderbilt University', 'Vandy', 'Vanderbilt', 'VU']}}
Merged Clustering Response: {'Vanderbilt University': ['Vanderbilt
University', 'Vandy', 'Vanderbilt', 'VU']}
Update Clustering Response: {'merge clustering response': {'Vanderbilt
University': ['Vanderbilt University', 'Vandy', 'Vanderbilt', 'VU']},
'message': 'Clustering results updated successfully'}
Clustering...
Cluster Response: {'results': '{\n"Vanderbilt University":
["Vanderbilt University", "Vandy", "VU", "Vanderbilt"], \n"18 year
old": ["18 year old"]\n\n\n \n\n \n\n \n\n \n\n \n\n \n\n
Merged Clustering Response: {'Vanderbilt University': ['Vanderbilt',
'Vanderbilt University', 'VU', 'Vandy'], '18 year old': ['18 vear
old'1}
Update Clustering Response: {'merge clustering response': {'18 year
old': ['18 year old'], 'Vanderbilt University': ['VU', 'Vanderbilt',
'Vanderbilt University', 'Vandy']}, 'message': 'Clustering results
updated successfully'}
clean entities
{ "results": [{"entity_type": "EDUCATIONAL_RECORD", "text":
"Valedictorian of my class"}] }
Entities updated from detect entities.
```

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Merged Entities: [{'entity type': 'ORGANIZATION', 'text': 'Vanderbilt
University'}, {'entity_type': 'ORGANIZATION', 'text': 'Vandy'},
{'entity_type': 'ORGANIZATION', 'text': 'Vanderbilt'}, {'entity_type':
'ORGANIZATION', 'text': 'VU'}, { 'entity_type': 'EDUCATIONAL_RECORD',
'text': 'Valedictorian of my class'}]
Update Entities Response: {'all_entities': [{'entity_type':
'ORGANIZATION', 'text': 'Vanderbilt University'}, {'entity_type':
'ORGANIZATION', 'text': 'Vandy'}, {'entity_type': 'ORGANIZATION',
'text': 'Vanderbilt'}, {'entity_type': 'ORGANIZATION', 'text': 'VU'},
{'entity_type': 'EDUCATIONAL_RECORD', 'text': 'Valedictorian of my
class'}], 'message': 'Entities updated successfully'}
Trigger post processing
Generating embeddings...
Generate Embeddings Response: {'message': 'Embeddings saved to
entity embeddings.csv'}
Clustering UF...
Cluster UF Response: {'results': {'Valedictorian of my class':
['Valedictorian of my class'], 'Vanderbilt University': ['Vanderbilt
University', 'Vandy', 'Vanderbilt', 'VU']}}
Merged Clustering Response: {'Vanderbilt University': ['Vanderbilt',
'VU', 'Vandy', 'Vanderbilt University'], '18 year old': ['18 year
old'], 'Valedictorian of my class': ['Valedictorian of my class']}
Update Clustering Response: {'merge clustering response': {'18 year
old': ['18 year old'], 'Valedictorian of my class': ['Valedictorian of
my class'], 'Vanderbilt University': ['VU', 'Vanderbilt', 'Vanderbilt University', 'Vandy']}, 'message': 'Clustering results updated
successfully'}
Clustering...
Cluster Response: {'results': '{\n "Vanderbilt University":
["Vanderbilt University", "Vandy", "VU", "Vanderbilt"],\n "18 year
old": ["18 year old"],\n "VU": ["VU", "Vanderbilt University",
"Vandy", "Vanderbilt" \( \)\n\}'\}
Merged Clustering Response: {'Vanderbilt University': ['Vanderbilt
University', 'Vanderbilt', 'Vandy', 'VU'], '18 year old': ['18 year
old'], 'Valedictorian of my class': ['Valedictorian of my class'],
'VU': ['VU', 'Vanderbilt University', 'Vandy', 'Vanderbilt']}
Update Clustering Response: {'merge_clustering_response': {'18 year
old': ['18 year old'], 'VU': ['VU', 'Vanderbilt University', 'Vandy',
'Vanderbilt'], 'Valedictorian of my class': ['Valedictorian of my
class'], 'Vanderbilt University': ['VU', 'Vanderbilt', 'Vanderbilt
University', 'Vandy']}, 'message': 'Clustering results updated
successfully'}
Merging results from detect and nltk ner.
Merged Entities: [{'entity_type': 'ORGANIZATION', 'text': 'Vanderbilt
University'}, {'entity_type': 'ORGANIZATION', 'text': 'Vandy'},
{'entity_type': 'ORGANIZATION', 'text': 'Vanderbilt'}, {'entity_type':
'ORGANIZATION', 'text': 'VU'}, {'entity_type': 'EDUCATIONAL_RECORD',
'text': 'Valedictorian of my class'}]
```

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Update Entities Response: {'all entities': [{'entity type':
'ORGANIZATION', 'text': 'Vanderbilt University'}, {'entity_type':
'ORGANIZATION', 'text': 'Vandy'}, {'entity_type': 'ORGANIZATION',
'text': 'Vanderbilt'}, {'entity_type': 'ORGANIZATION', 'text': 'VU'},
{'entity_type': 'EDUCATIONAL_RECORD', 'text': 'Valedictorian of my
class'}], 'message': 'Entities updated successfully'}
Trigger post processing
Generating embeddings...
Generate Embeddings Response: {'message': 'Embeddings saved to
entity embeddings.csv'}
Clustering UF...
Cluster UF Response: {'results': {'Valedictorian of my class':
['Valedictorian of my class'], 'Vanderbilt University': ['Vanderbilt
University', 'Vandy', 'Vanderbilt', 'VU']}}
Merged Clustering Response: {'Vanderbilt University': ['Vanderbilt',
'Vanderbilt University', 'VU', 'Vandy'], '18 year old': ['18 year
old'], 'Valedictorian of my class': ['Valedictorian of my class'],
'VU': ['VU', 'Vanderbilt University', 'Vandy', 'Vanderbilt']}
Update Clustering Response: {'merge_clustering_response': {'18 year
old': ['18 year old'], 'VU': ['VU', 'Vanderbilt', 'Vanderbilt University', 'Vandy'], 'Valedictorian of my class': ['Valedictorian of
my class'], 'Vanderbilt University': ['VU', 'Vanderbilt', 'Vanderbilt
University', 'Vandy']}, 'message': 'Clustering results updated
successfully'}
Clustering...
Cluster Response: {'results': '{\n"Vanderbilt University": [\n
"Vanderbilt University", \n "Vandy", \n "VU", \n "Vanderbilt"\n],
\n"18 year old": ["18 year old"],\n"VU": [\n "VU", \n "Vanderbilt
University", \n "Vandy", \n "Vanderbilt"\n]\n}'}
Merged Clustering Response: {'Vanderbilt University': ['Vanderbilt',
'VU', 'Vandy', 'Vanderbilt University'], '18 year old': ['18 year
old'], 'Valedictorian of my class': ['Valedictorian of my class'],
'VU': ['Vanderbilt', 'Vanderbilt University', 'Vandy', 'VU']}
Update Clustering Response: {'merge_clustering_response': {'18 year
old': ['18 year old'], 'VU': ['VU', 'Vanderbilt', 'Vanderbilt
University', 'Vandy'], 'Valedictorian of my class': ['Valedictorian of
my class'], 'Vanderbilt University': ['VU', 'Vanderbilt', 'Vanderbilt
University', 'Vandy']}, 'message': 'Clustering results updated
successfully'}
```