Selecting the Right Experts:

Generalizing Information Extraction for Unseen Scenarios via Task-Aware Expert Weighting

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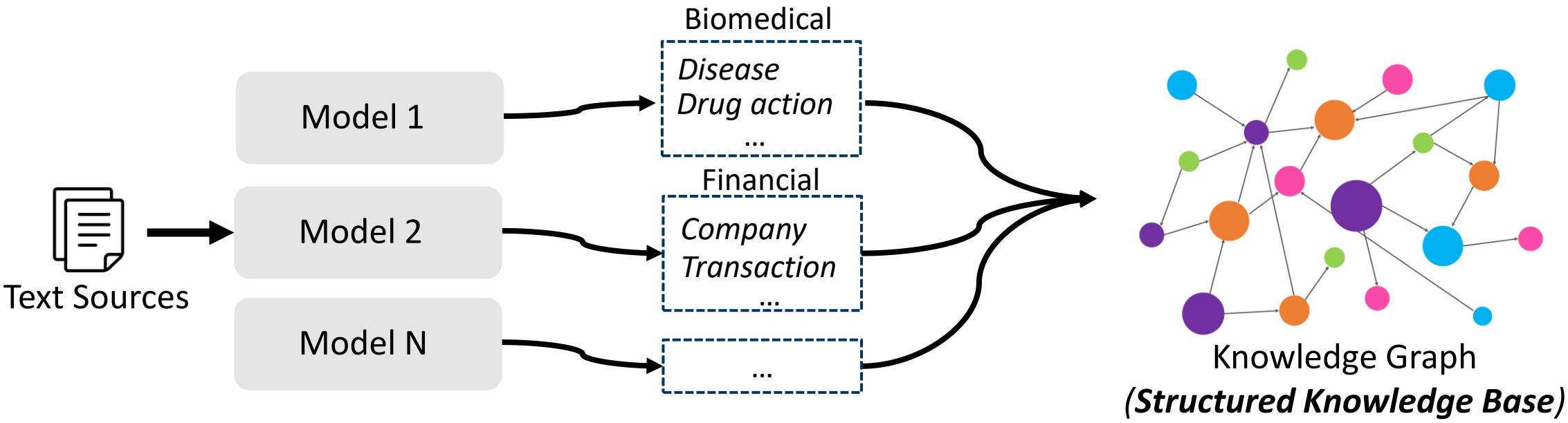
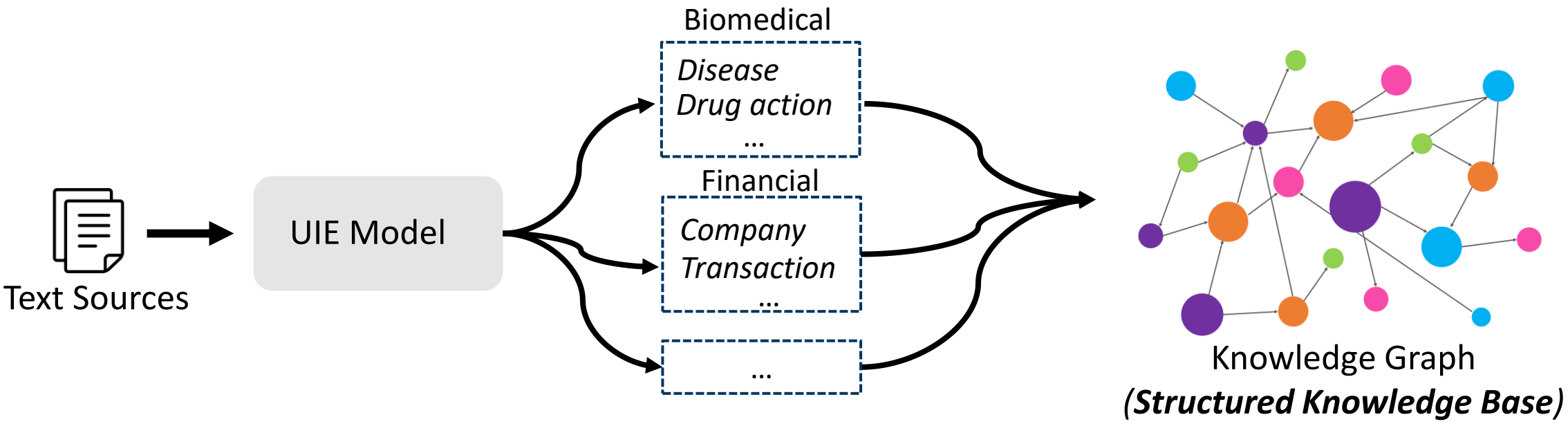
Information Extraction (IE)

- IE aims to convert free text into **structured knowledge** that can be easily consumed by downstream tasks
- Traditional method: Train one model for each domain



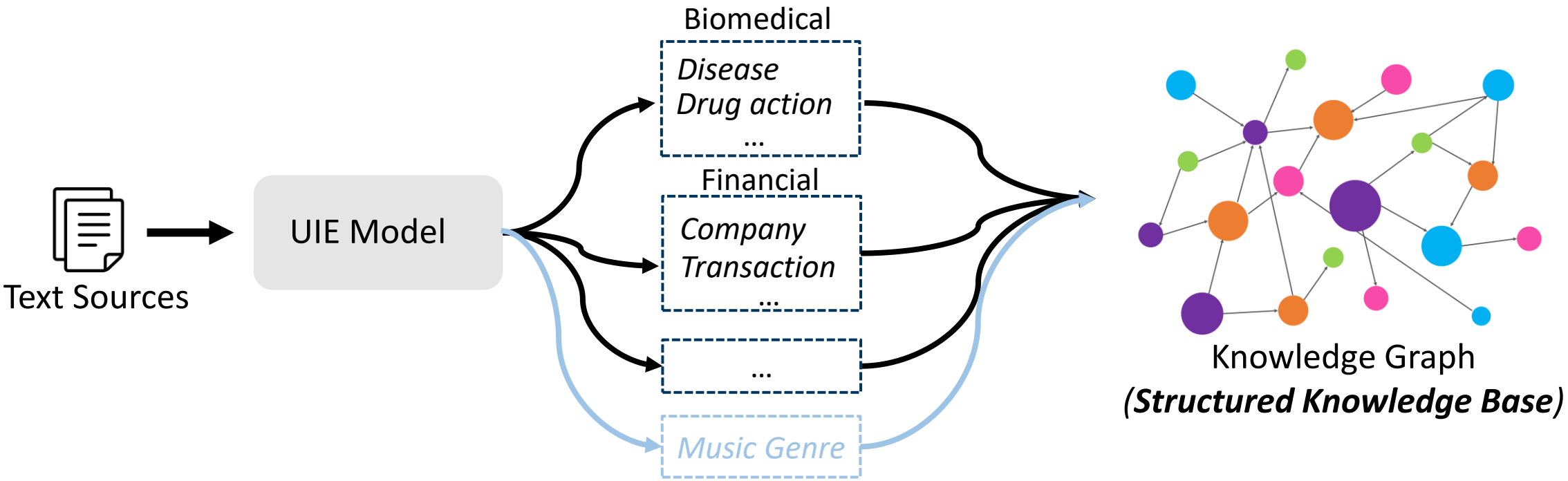
Universal Information Extraction (UIE)

- Aims to unify all extraction targets using a single model

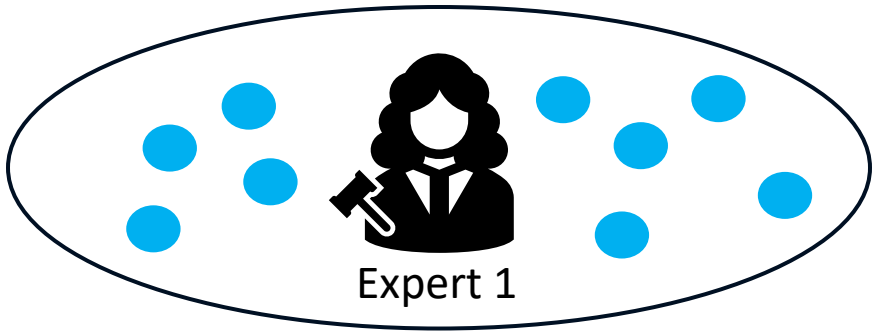


Universal Information Extraction (UIE)

- Aims to unify all extraction targets using a single model
- **Challenge**: Current UIE models struggle to generalize well to unseen tasks or new schemas

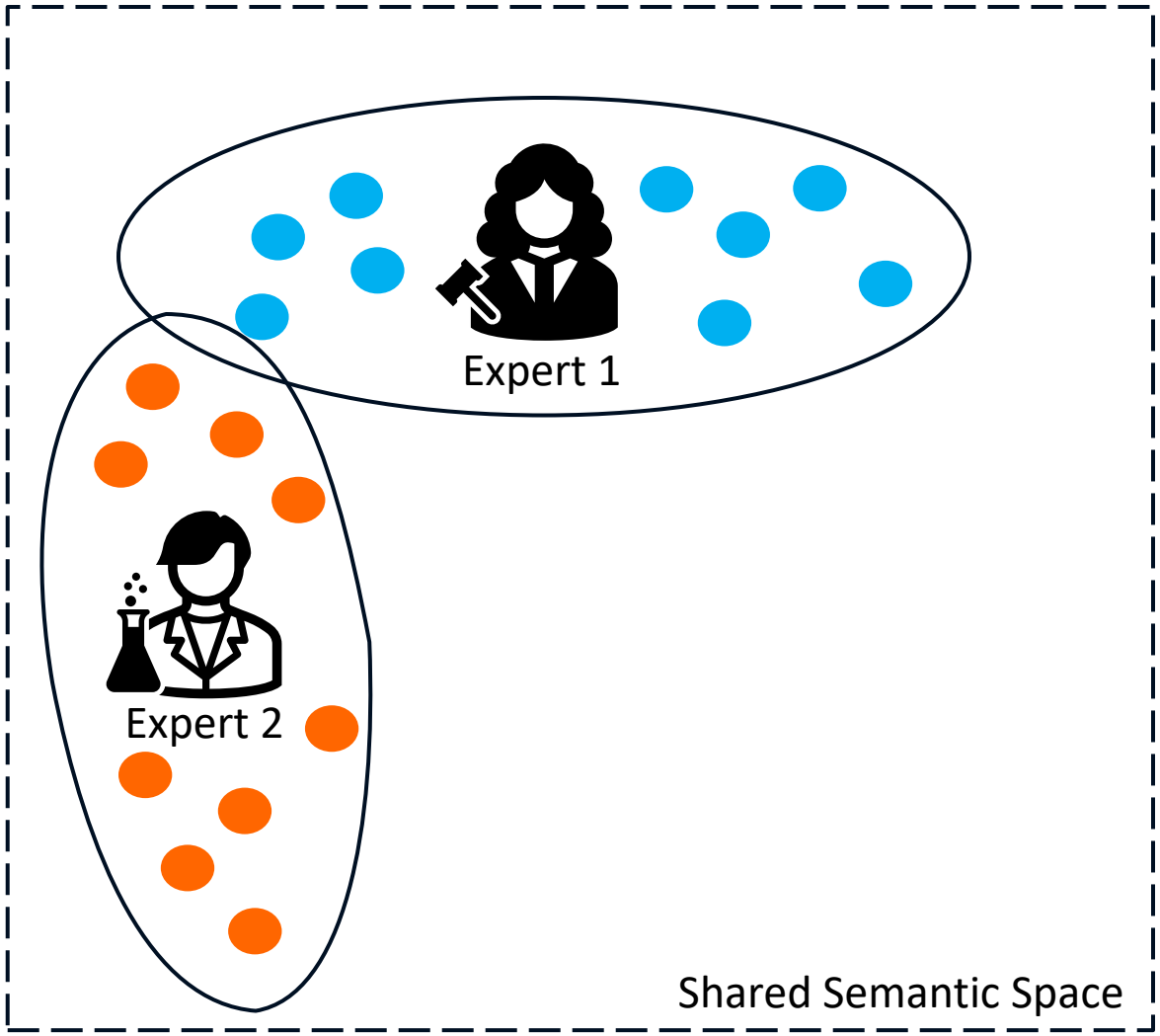


Task-Aware Mixture-of-Experts Concept



- Each expert excels at a different set of **seen tasks** learned from training

Task-Aware Mixture-of-Experts Concept



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- We **map all tasks into a shared semantic space**, where related tasks are closer together

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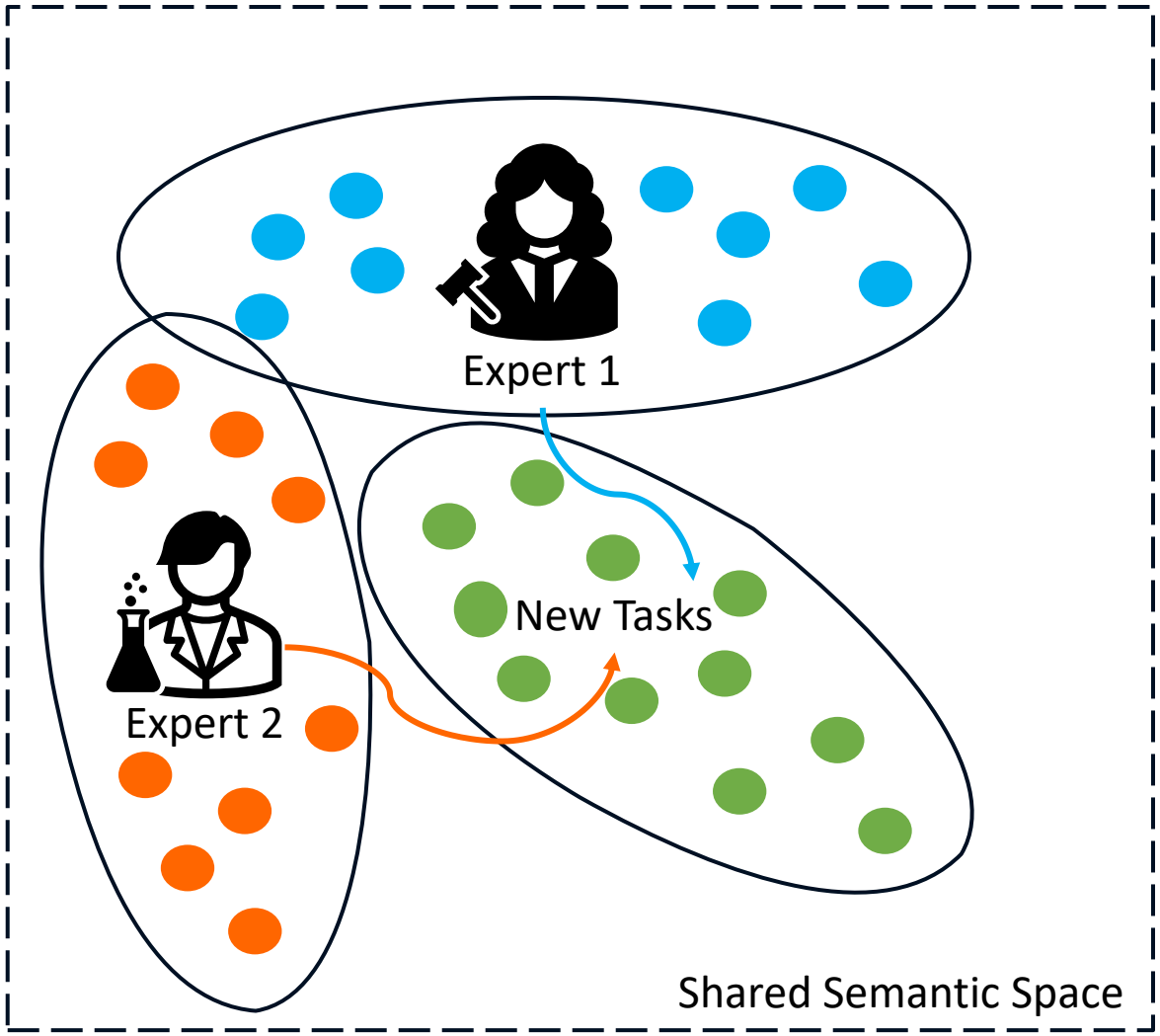

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- When a **new task** appears, the model knows **where it fits** and **how to coordinate multiple experts**

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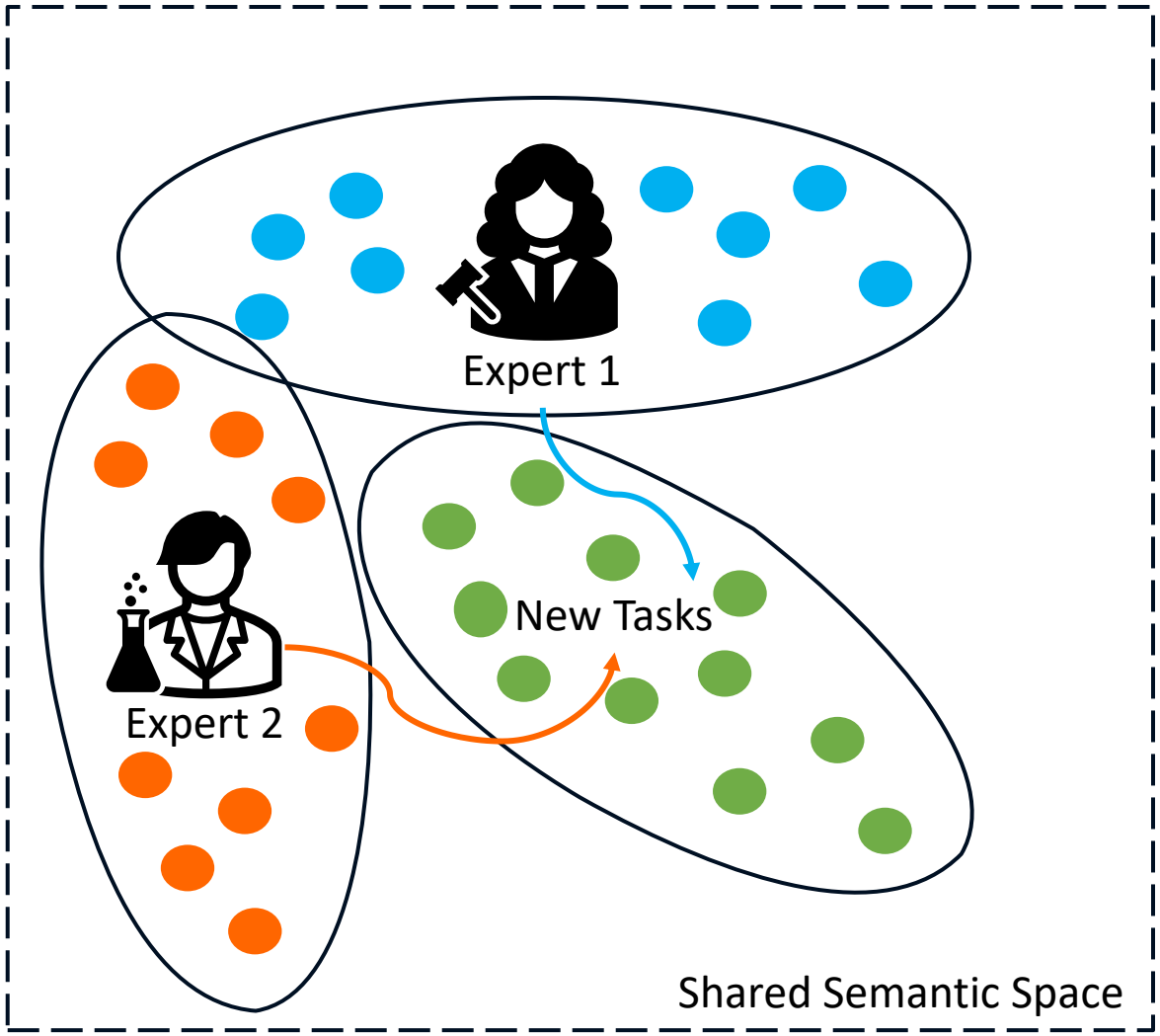

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- We **map all tasks into a shared semantic space**, where related tasks are closer together
- When a **new task** appears, the model knows **where it fits** and **how to coordinate multiple experts**
- Our method improves generalization to new tasks without using extra training data

Read the full paper

Thanks

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