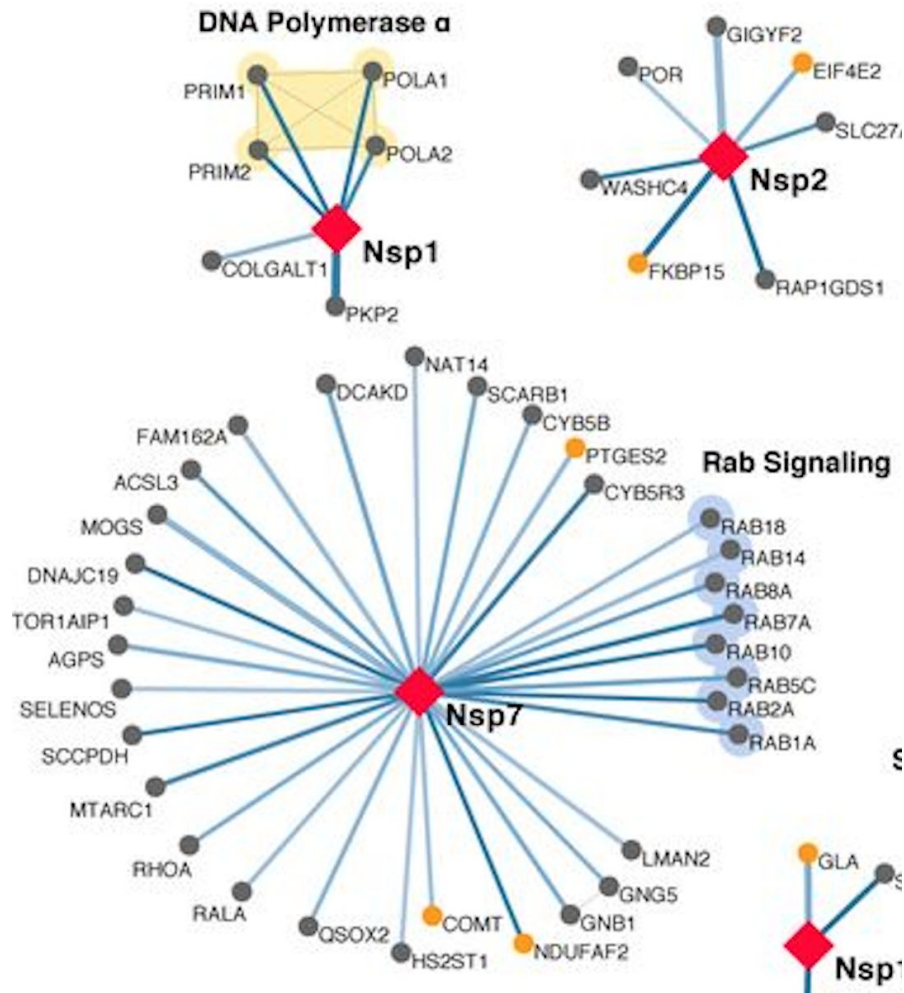




KG-COVID-19: Knowledge Graph for COVID-19 Response

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EGSB
May 7, 2020



Goal:

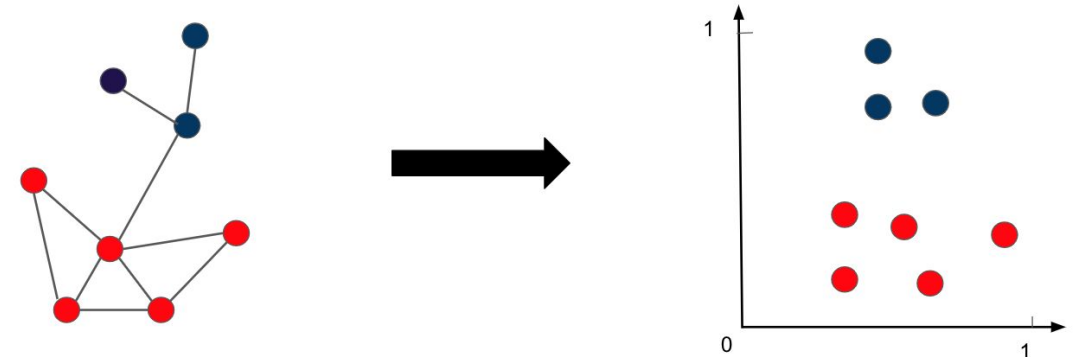
- Use Machine Learning (ML) to make useful COVID related predictions
 - e.g. drug repositioning

Challenge:

- Data is siloed
- Traditional ML methods don't take into account interconnectedness

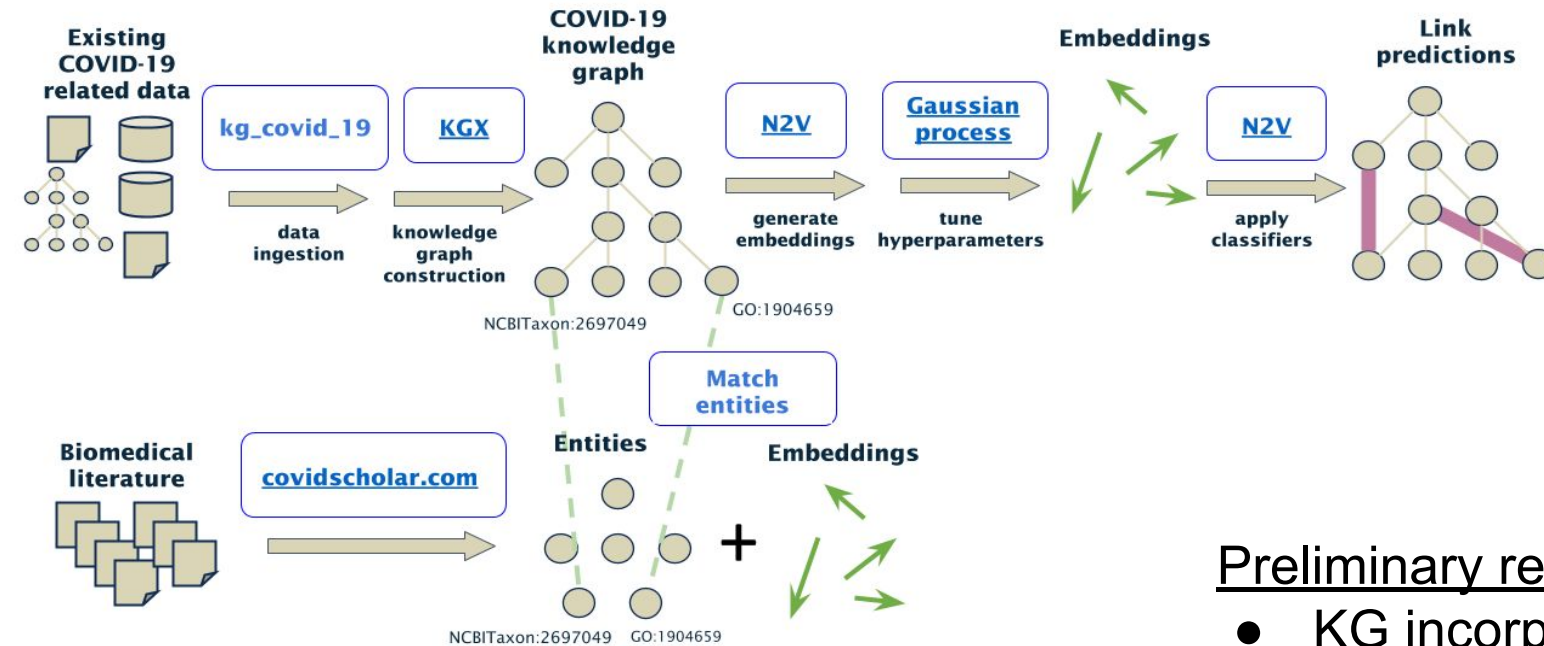
Approach:

- Create a COVID-19 *Knowledge Graph (KG)*
- Develop graph *embeddings*



Gordon et al, 2020: A SARS-CoV-2 protein interaction map reveals targets for drug repurposing

KG-COVID-19 Knowledge Graph for COVID-19 Response



Produce actionable knowledge:

- new drug -> disease links (drug repurposing)
- extend to epi, structural bio
- queryable KG to explore data
- FAIR COVID-19 data

Preliminary results

- KG incorporates 16M edges
- N2V beats current state of art on PPI prediction challenge

Project URL / GitHub Repository:

<https://github.com/Knowledge-Graph-Hub/kg-covid-19>

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