Grammar Rules

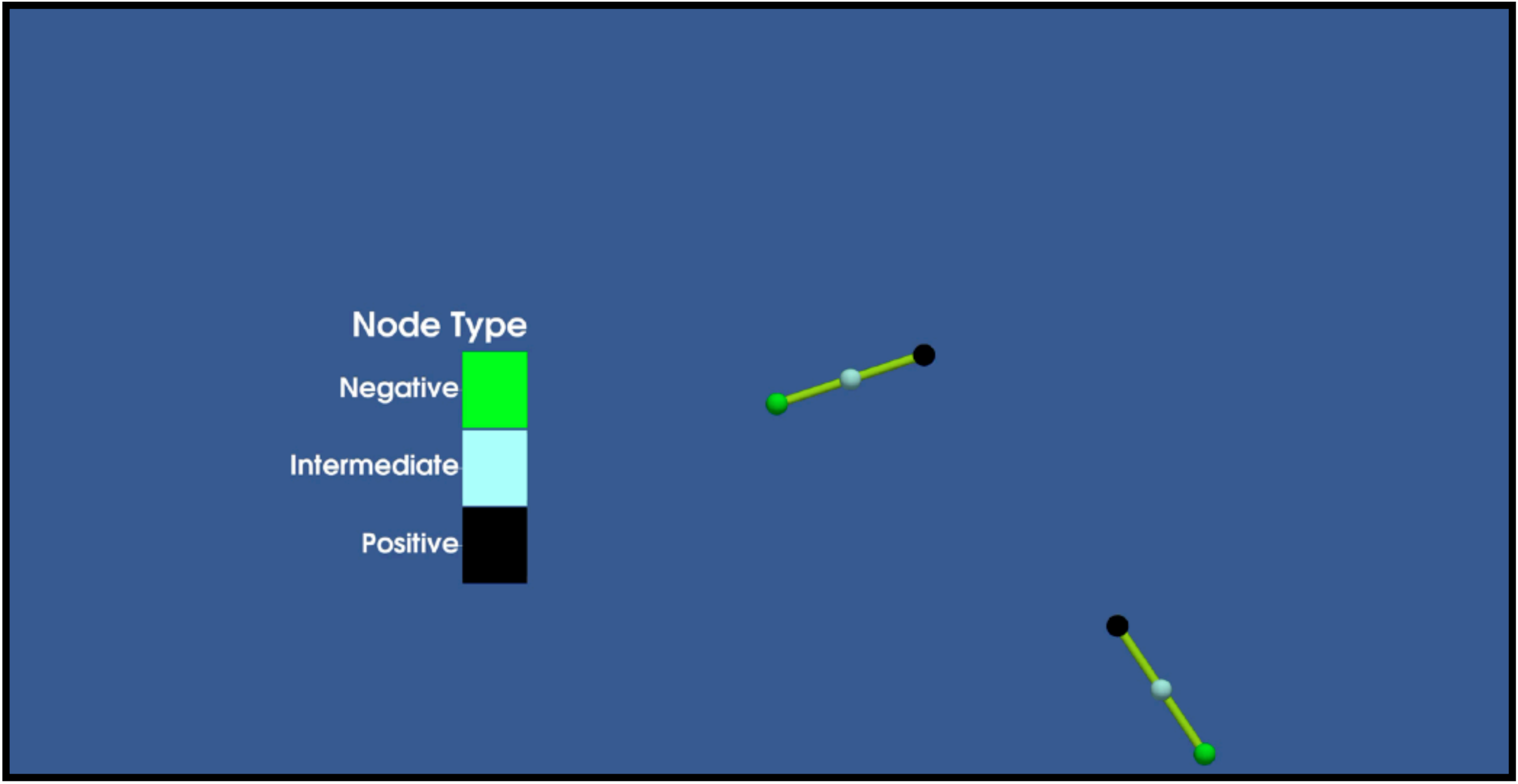
Muitcomponent Rules

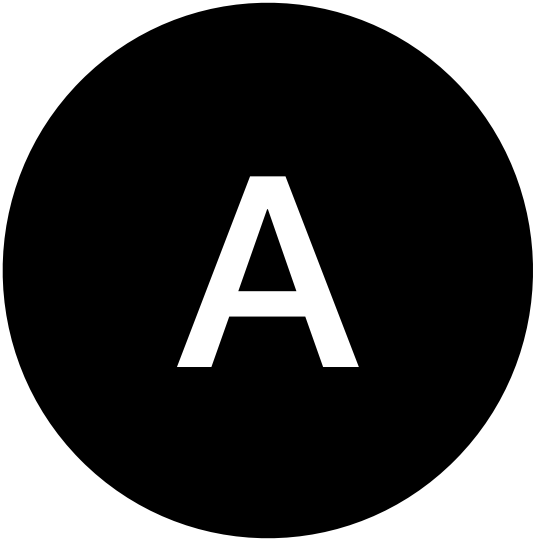
12

$$(\bigcirc_1 — \bullet_2 , \bigcirc_3 — \bigcirc_4) \langle\!\langle (\boldsymbol{x}_1, \boldsymbol{u}_1), (\boldsymbol{x}_2, \boldsymbol{u}_2), (\boldsymbol{x}_3, \boldsymbol{u}_3), (\boldsymbol{x}_4, \boldsymbol{u}_4) \rangle\!\rangle$$

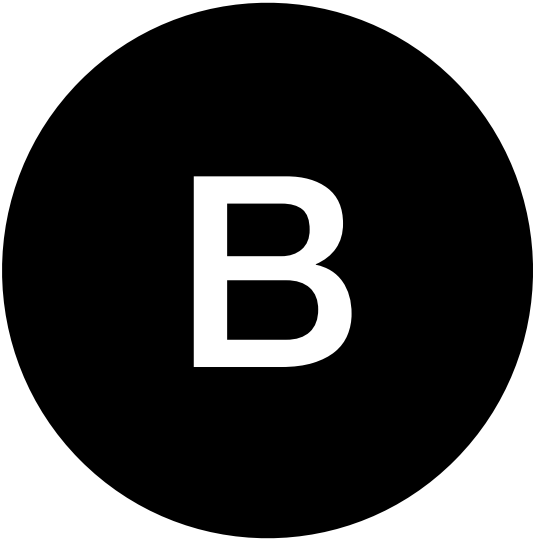
$$\longrightarrow (\bigcirc_1 — \blacksquare_2 , \bigcirc_3 — \bigcirc_4) \langle\!\langle (\boldsymbol{x}_1, \boldsymbol{u}_1), (\boldsymbol{x}_2, \boldsymbol{u}_2), (\boldsymbol{x}_3, \boldsymbol{u}_3), (\boldsymbol{x}_4, \boldsymbol{u}_4) \rangle\!\rangle$$

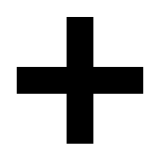
Stochastic Collision Induced Catastrophe Rule[1]:

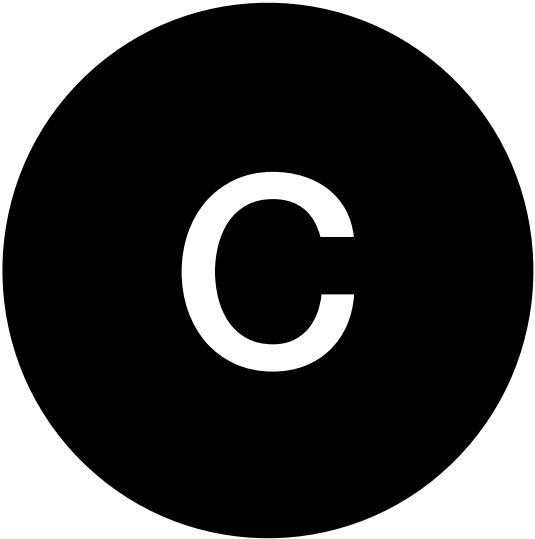

Node Type
Negative
Intermediate
Positive

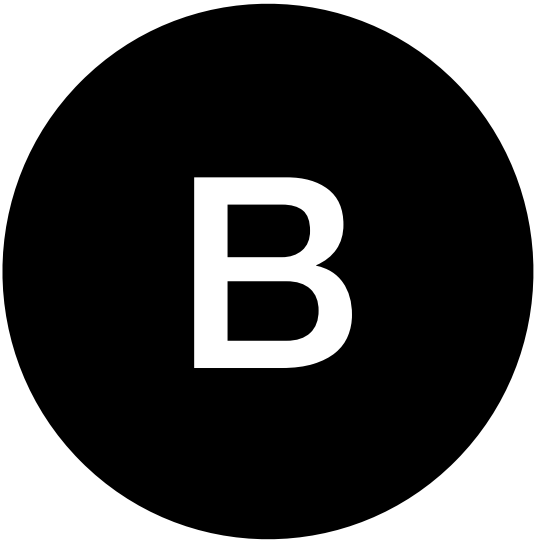

A

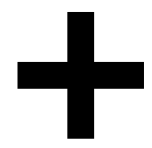
Think of A, B, C as short hand for connected components of the graphs on the left and right.


B




C


B



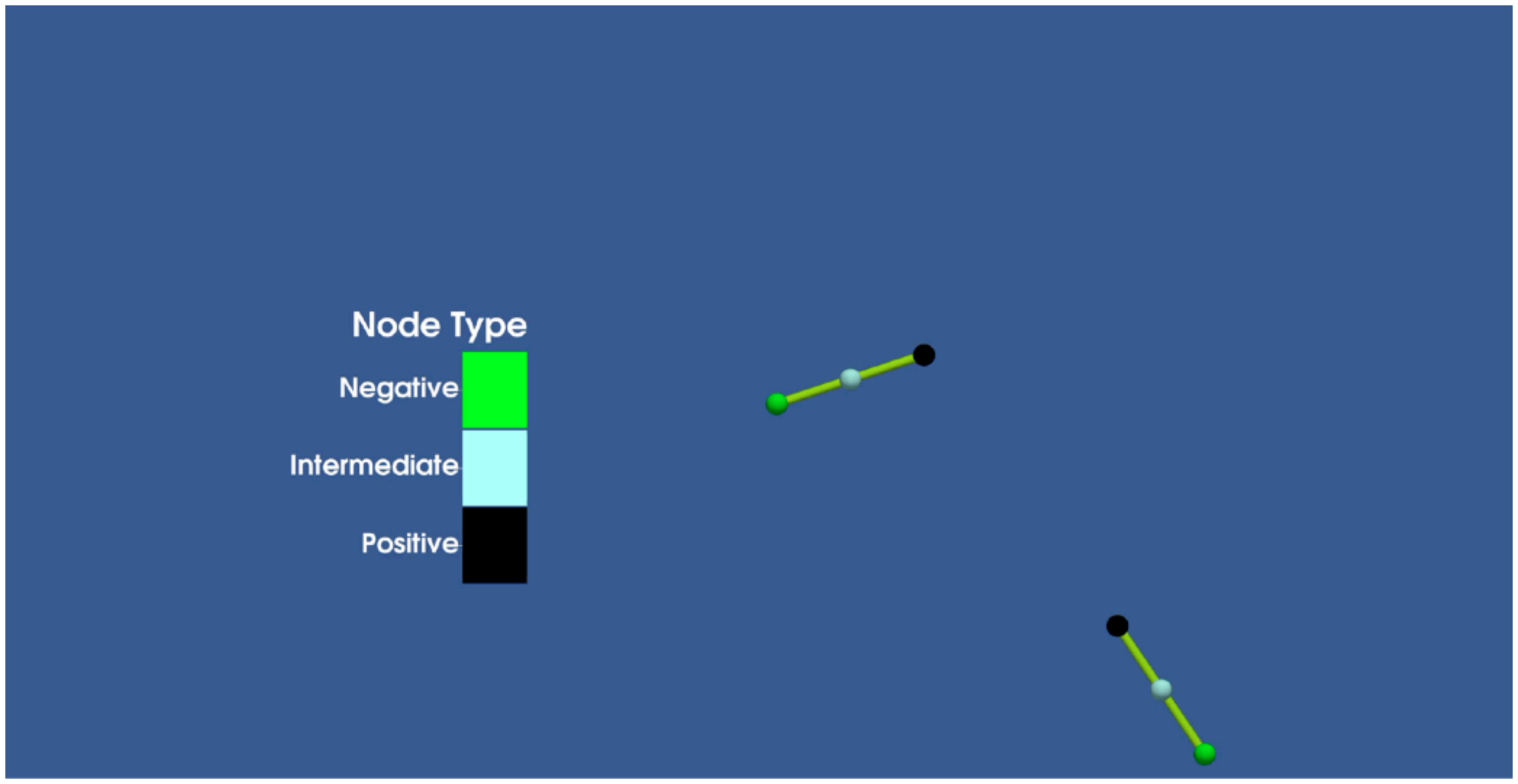
(Propensity ρ_r excluded for clarity)

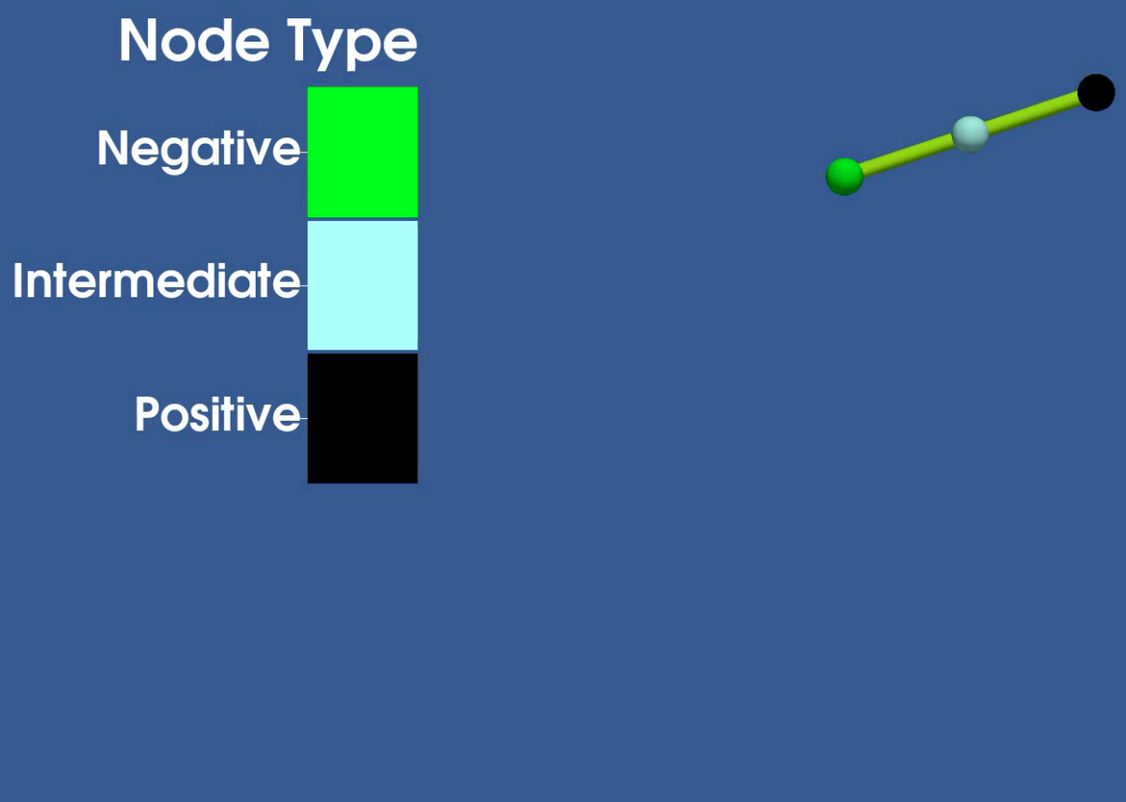
- The left and right side graphs may have more than one connected component.

- A set of nodes forms a ***connected component*** in an undirected graph if any node in the set can reach any other node in the set by traversing edges.

1. More examples in thesis.

Figure 4: Example of two Microtubules colliding. The graphs are spatially embedded, and the collision is spatially local!


Node Type
Negative
Intermediate
Positive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Grammar Rules

Muitcomponent Rules

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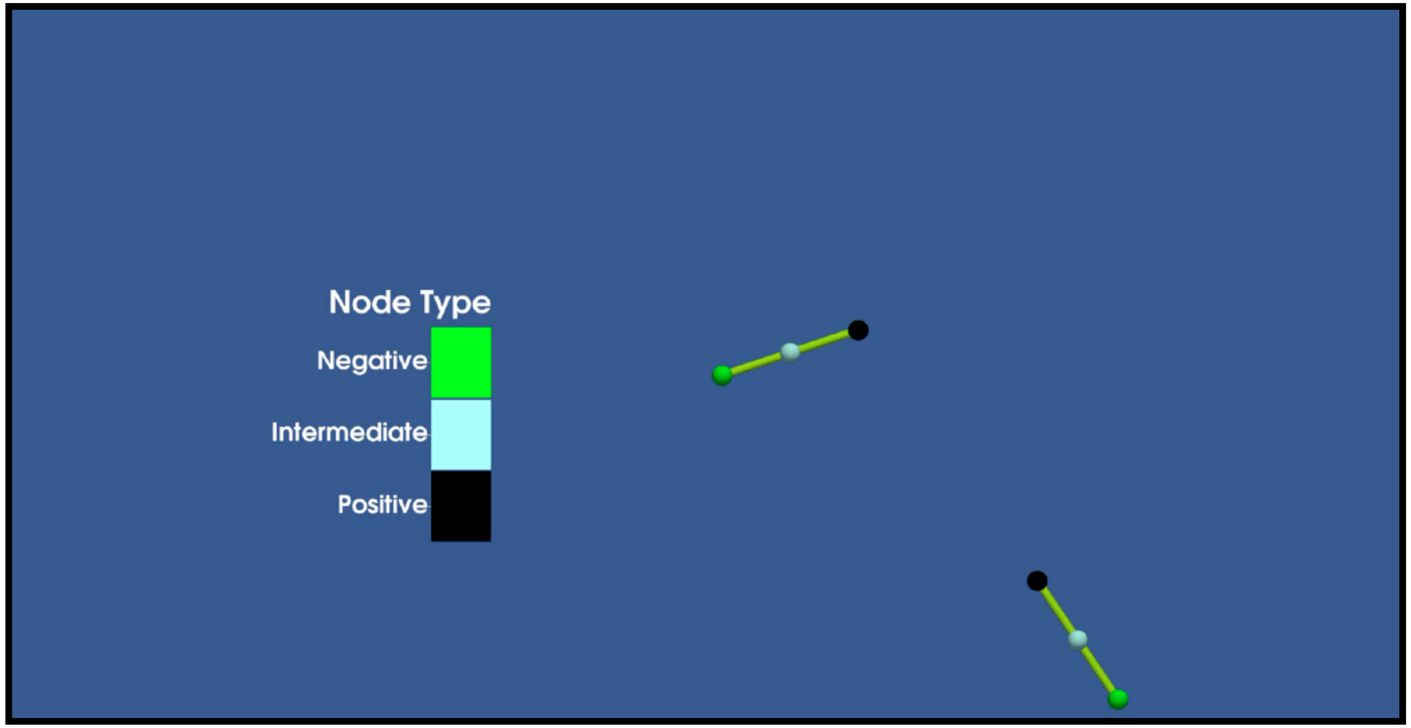

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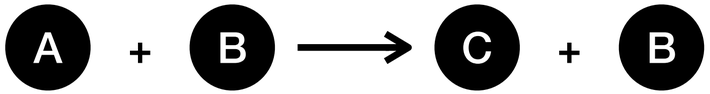

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1. More examples in thesis.

Algorithms