ALGORITHM FOR SAFETY AND DISTANCE OPTIMIZATION ON ROUTES IN MEDELLÍN

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Sharif Velásquez
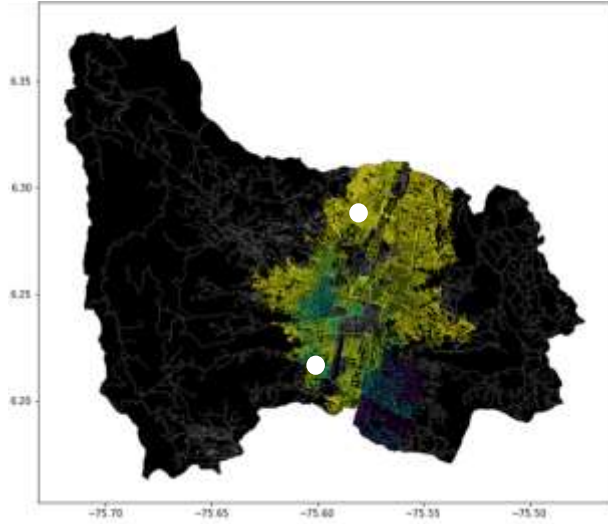Investigator
algorithms

Andrés Parra
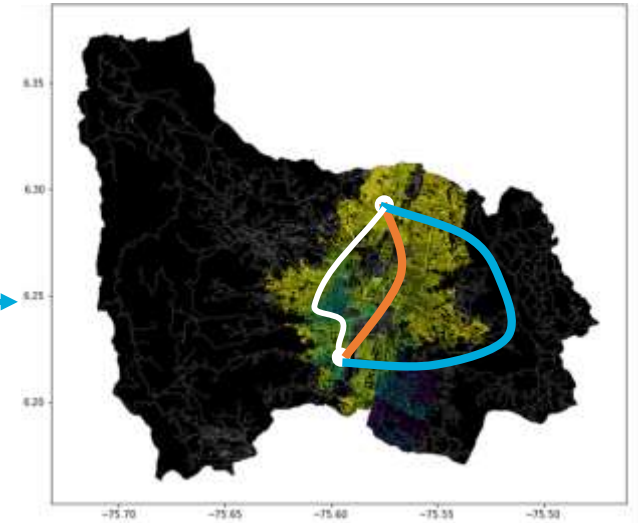Articles review

Andrea Serna
Literature review

Mauricio Toro
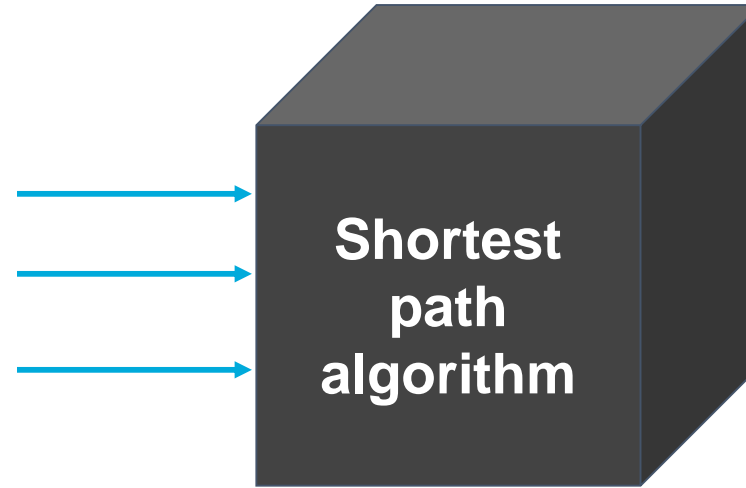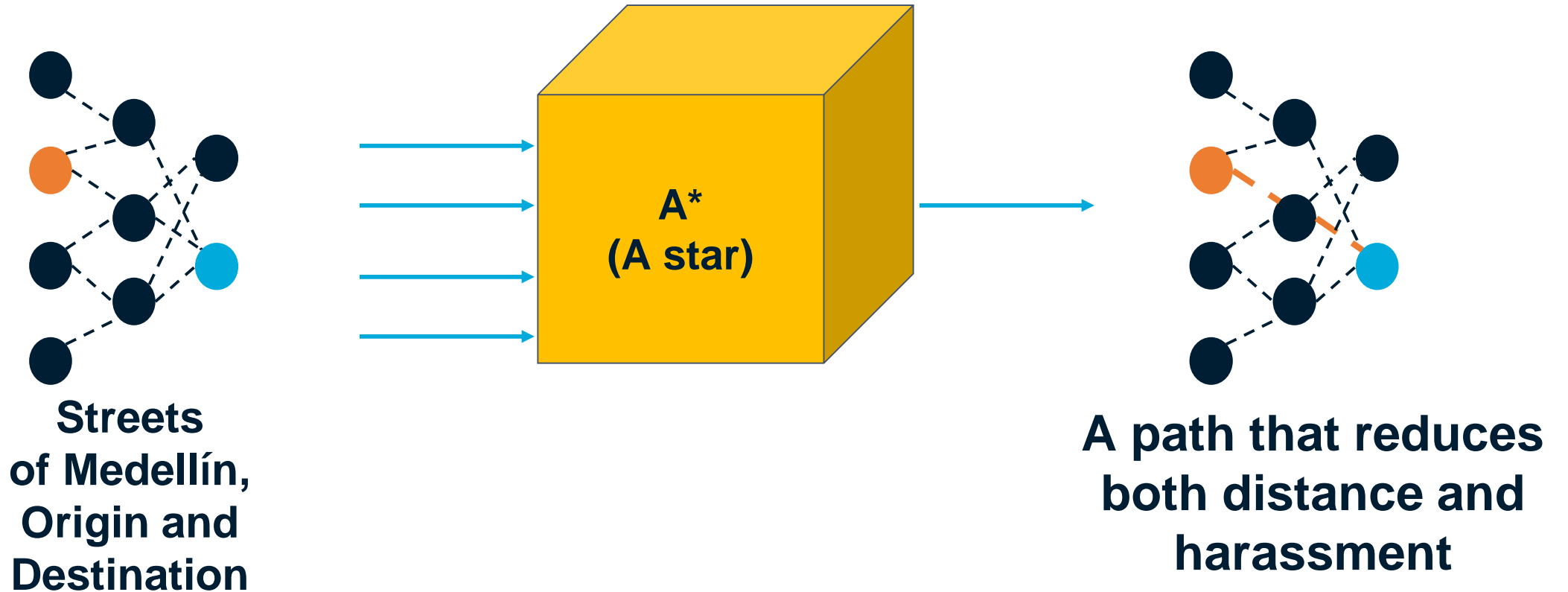Data preparation

https://github.com/SharifVelasquezAlzate/SafetyAndDistanceOptimization

**Streets
of Medellín,
Origin and
Destination**

**Shortest
path
algorithm**

**Three paths that reduce
both the risk of harassment
and distance**

Streets
of Medellín,
Origin and
Destination

A*
(A star)

A path that reduces
both distance and
harassment

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Distance from source to node

Literal distance from node to target node

(0, 5)

(4, 4.34)

(inf, 3.46)

A → B → E

4   2

Sum of distance between nodes plus the harrasment risk

6

3

C ↔ D

1

(inf, 0)

(6, 2)
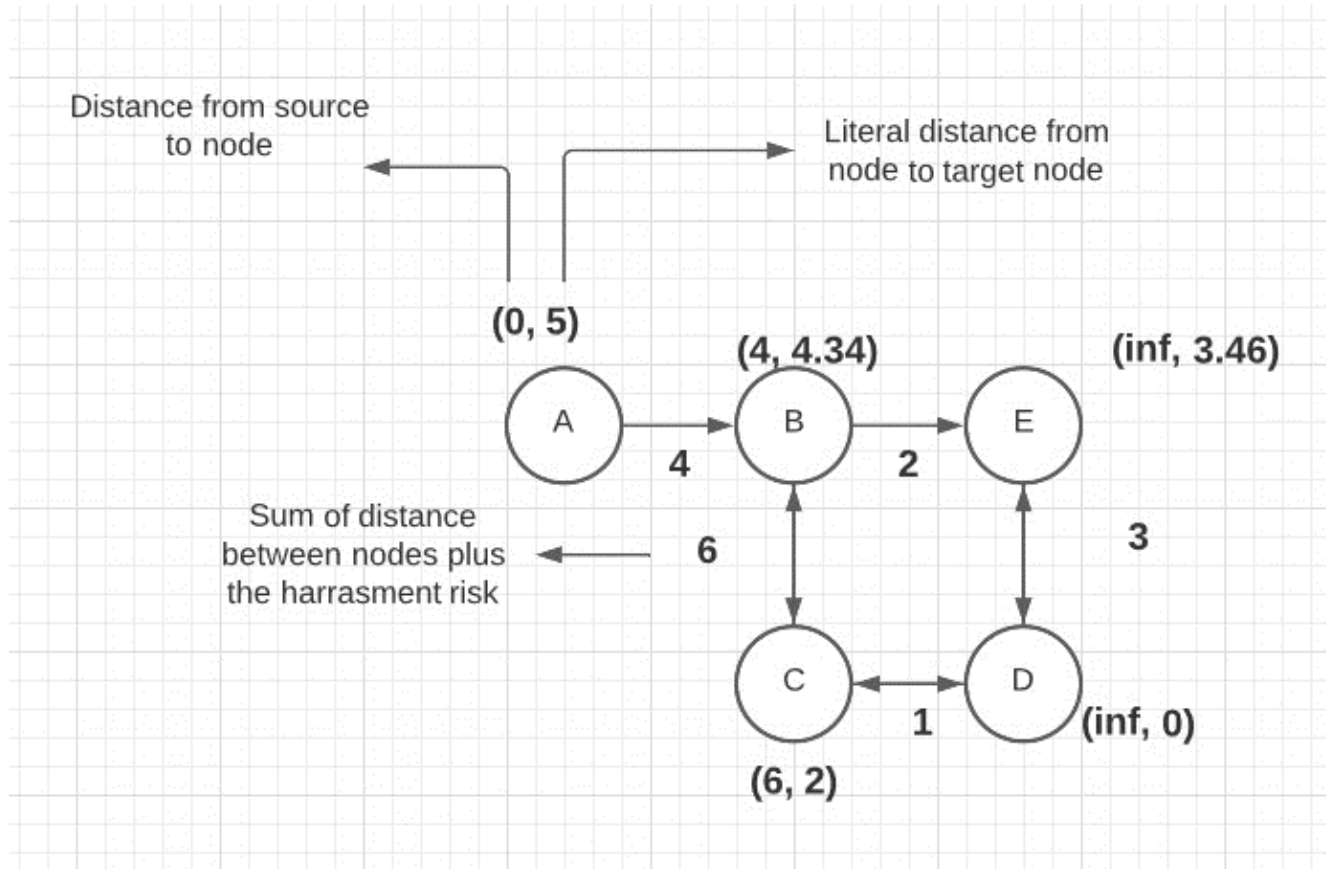
Name of the algorithm: A*
A heuristic way to find best path

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