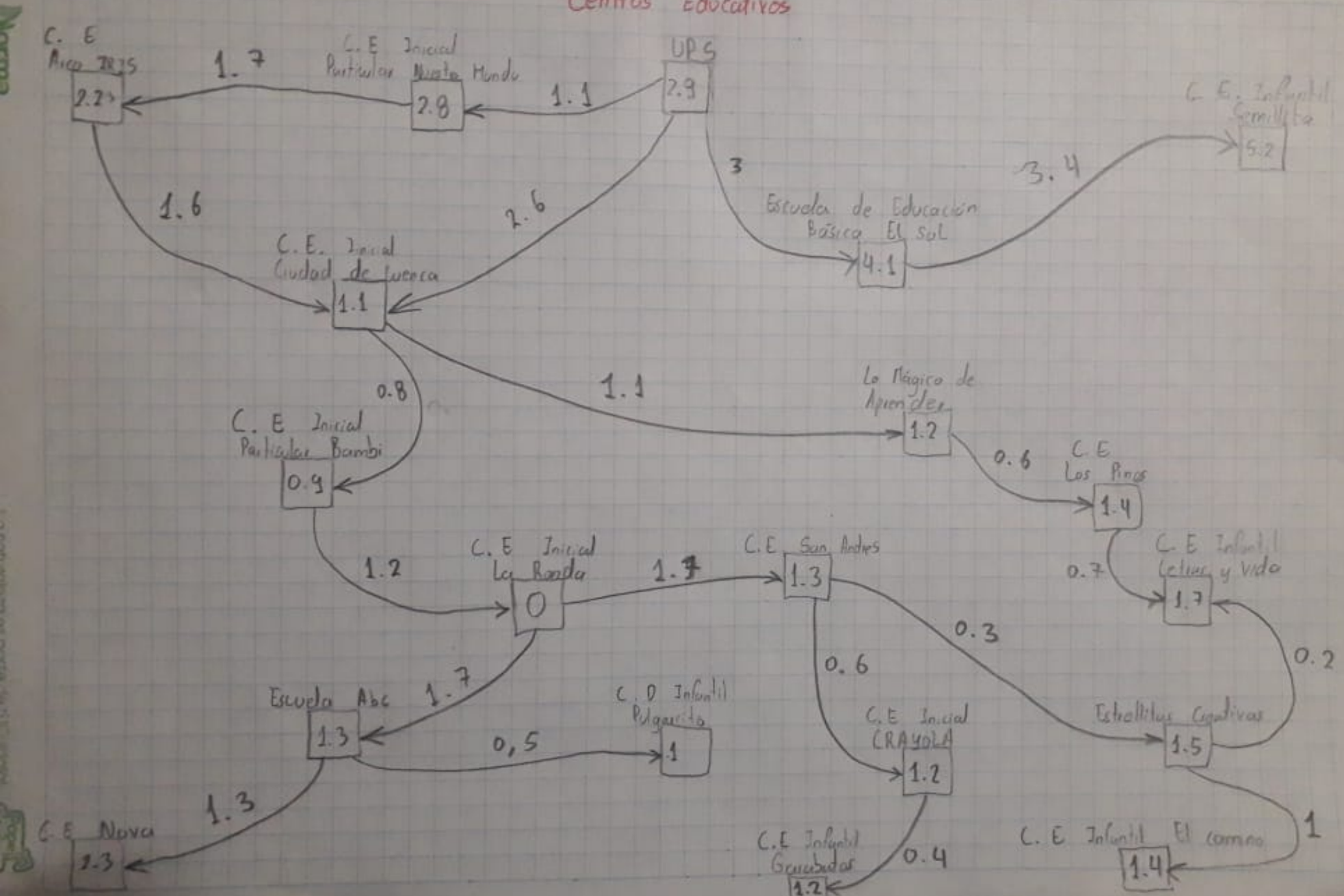
Universidad Politécnica Salesiana

jarevalop1@est.ups.edu.ec
Jorge Arévalo

Profesor: Ing. Diego Quisi

Materia: Inteligencia Artificia l

Centros Educativos



Nodos más cercanos $g(n) + h(n)$

UPS - C. E. Inicial Particular Nuestro Mundo : $1.1 + 2.8 = 3.9$

UPS - C. E. Inicial Ciudad de Cuenca : $2.6 + 1.1 = 3.7$

UPS - Escuela de Educación Básica El sol : $3 + 4.1 = 7.1$

Ordeno => 3.7
3.9
7.1

Cola = C. E. Inicial Ciudad de Cuenca (3.7), C. E. Inicial Particular Nuestro Mundo (3.9)
Escuela de Educación Básica El Sol (7.1)

Visitado : UPS (2.9)

2) Cola : C. E. Inicial Particular Nuestro Mundo (3.9), C. E. Inicial Particular Bambi (4.3)
Escuela de Educación Básica El sol (7,1)

Visitado : UPS(2.9), C. E. Inicial Ciudad de Cuenca (3.7)

3) Cola : C. E. Inicial Particular Bambi (4.3), Aro Inn (5), Escuela de Educación Básica El sol (7,1)

Visitado : UPS(2.9), C. E. Inicial Ciudad de Cuenca (3.7), C. E. Inicial Particular Nuestro Mundo (3.9)

4)

Visitado : UPS(2.9), C. E. Inicial Ciudad de Cuenca (3.7), C. E. Inicial Particular Nuestro Mundo (3.9), C. E. Inicial Particular Bambi (4.3)

El Nodo meta es => C. E. Inicial La Ronda

$1.2 + 0.8 + 2.6 + 0 = 4.6$ // Respuesta.

Código Neo4j

```
 CREATE (a:Station {name: 'UPS', latitude: -2.886982, longitude: -78.989245      }),
 (b:Station {name: 'CE NuestroMundo', latitude: -2.915790, longitude: -79.025966}),
 (c:Station {name: 'CE CiudadDeCuenca', latitude: -2.895627, longitude: -79.012570}),
 (d:Station {name: 'CE ElSol', latitude: -2.883080, longitude: -79.006281}),
 (e:Station {name: 'CE Arcoiris', latitude: -2.868922, longitude: -79.036679}),
 (f:Station {name: 'CE Bambi', latitude: -2.911797, longitude: -79.017744}),
 (g:Station {name: 'CE MagicodeApreder', latitude: -2.911737, longitude: -79.014108}),
 (h:Station {name: 'CE Semillita', latitude: -2.903039, longitude: -79.009675}),
 (i:Station {name: 'CE LaRonda', latitude: -2.892817, longitude: -79.007998}),
 (j:Station {name: 'CE SanAndres', latitude: -2.882615, longitude: -78.994081}),
 (k:Station {name: 'CE LosPinos', latitude: -2.910449, longitude: -79.001212}),
 (l:Station {name: 'CE ABC', latitude: -2.907963, longitude: -78.999809}),
 (m:Station {name: 'CE Pulgarcito', latitude: -2.904650, longitude: -78.998561}),
 (n:Station {name: 'CE Crayola', latitude: -2.896823, longitude: -79.000479}),
 (o:Station {name: 'CE LetrasyVida', latitude: -2.909021, longitude: -78.997837}),
 (p:Station {name: 'CE EstrellitasCreativas', latitude: -2.904915, longitude: -
78.996063}),
 (q:Station {name: 'CE Nova', latitude: -2.903711, longitude: -78.994309}),
 (r:Station {name: 'CE Garabatos', latitude: -2.899413, longitude: -78.997474}),
 (s:Station {name: 'CE ElCamino', latitude: -2.892067, longitude: -78.973988}),

 (a)-[:CONNECTION {time: 1.1}]->(b),
 (a)-[:CONNECTION {time: 2.6}]->(c),
 (a)-[:CONNECTION {time: 3}]->(d),
 (b)-[:CONNECTION {time: 1.7}]->(e),
 (c)-[:CONNECTION {time: 0.8}]->(f),
 (c)-[:CONNECTION {time: 1.1}]->(g),
 (d)-[:CONNECTION {time: 3.4}]->(h),
 (e)-[:CONNECTION {time: 1.6}]->(c),
 (f)-[:CONNECTION {time: 1.2}]->(i),
 (g)-[:CONNECTION {time: 0.6}]->(k),
 (h)-[:CONNECTION {time: 4.1}]->(d),
 (i)-[:CONNECTION {time: 1.7}]->(j),
 (i)-[:CONNECTION {time: 1.7}]->(l),
 (j)-[:CONNECTION {time: 0.6}]->(n),
 (j)-[:CONNECTION {time: 0.3}]->(p),
 (k)-[:CONNECTION {time: 0.7}]->(o),
 (l)-[:CONNECTION {time: 1.3}]->(q),
 (l)-[:CONNECTION {time: 0.5}]->(m),
 (m)-[:CONNECTION {time: 0.5}]->(l),
 (n)-[:CONNECTION {time: 0.4}]->(),
 (o)-[:CONNECTION {time: 0.2}]->(p),
 (p)-[:CONNECTION {time: 0.3}]->(i),
 (p)-[:CONNECTION {time: 1}]->(s),
 (p)-[:CONNECTION {time: 0.2}]->(o),
 (q)-[:CONNECTION {time: 1.3}]->(l),
 (r)-[:CONNECTION {time: 0.4}]->(n),
 (s)-[:CONNECTION {time: 1}]->(p)
```


```
MATCH (start:Station {name: "UPS"}), (end:Station {name: "CE LaRonda"}) CALL
gds.alpha.shortestPath.astar.stream({   nodeQuery: 'MATCH (p:Station) RETURN id(p) AS
id',   relationshipQuery: 'MATCH (p1:Station)-[r:CONNECTION]->(p2:Station) RETURN id(p1)
AS source, id(p2) AS target, r.time AS weight',   startNode: start,   endNode: end,
relationshipWeightProperty: 'weight',   propertyKeyLat: 'latitude',   propertyKeyLat:
'longitude' }) YIELD nodeId, cost RETURN gds.util.asNode(nodeId).name AS station, cost
```

neo4j$ MATCH (start:Station {name: "UPS"}), (end:Station {name: "CE LaRonda"}) CALL gds.al…

Table | Text | Code

station	cost
"UPS"	0.0
"CE CiudadDeCuenca"	2.6
"CE Bambi"	3.4000000000000004
"CE LaRonda"	4.6000000000000005

Started streaming 4 records after 3 ms and completed after 212 ms.

Grafico

MATCH (n) RETURN n