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SHORTEST ROUTE OPTIMIZATION USING MACHINE LEARNING

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Problem Statement

- Combine machine learning and traditional mathematical models
- Create a Shortest Path for multipal locations.

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Objective

To create a formation movement shortest path finding software for delivery vehicles to implement tactical movement within a large metropolis such as Pune and optimization scheme for transportation planning and analysis to provide a major advantage in its ability to take into account a range of different, often unrelated criteria, even if these criteria cannot be directly related to quantitative outcome measures.
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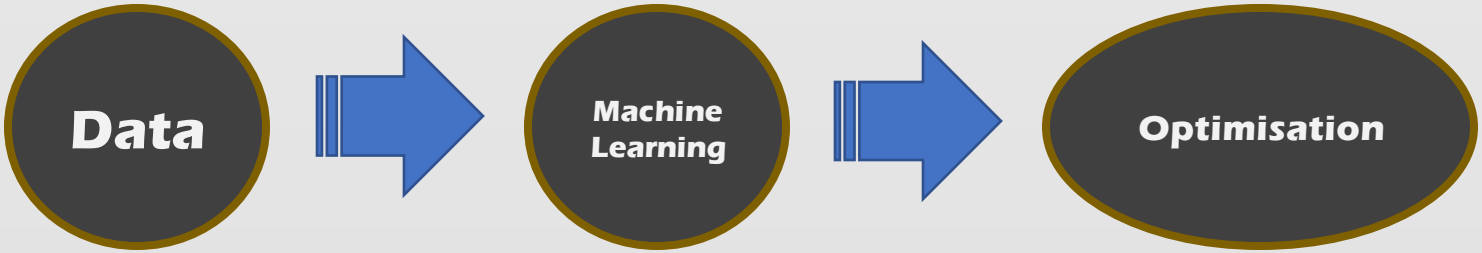
Proposed system



PUNE VEHICAL DATA	XGBOOST	EVOLUTIONARY ALGORITHM

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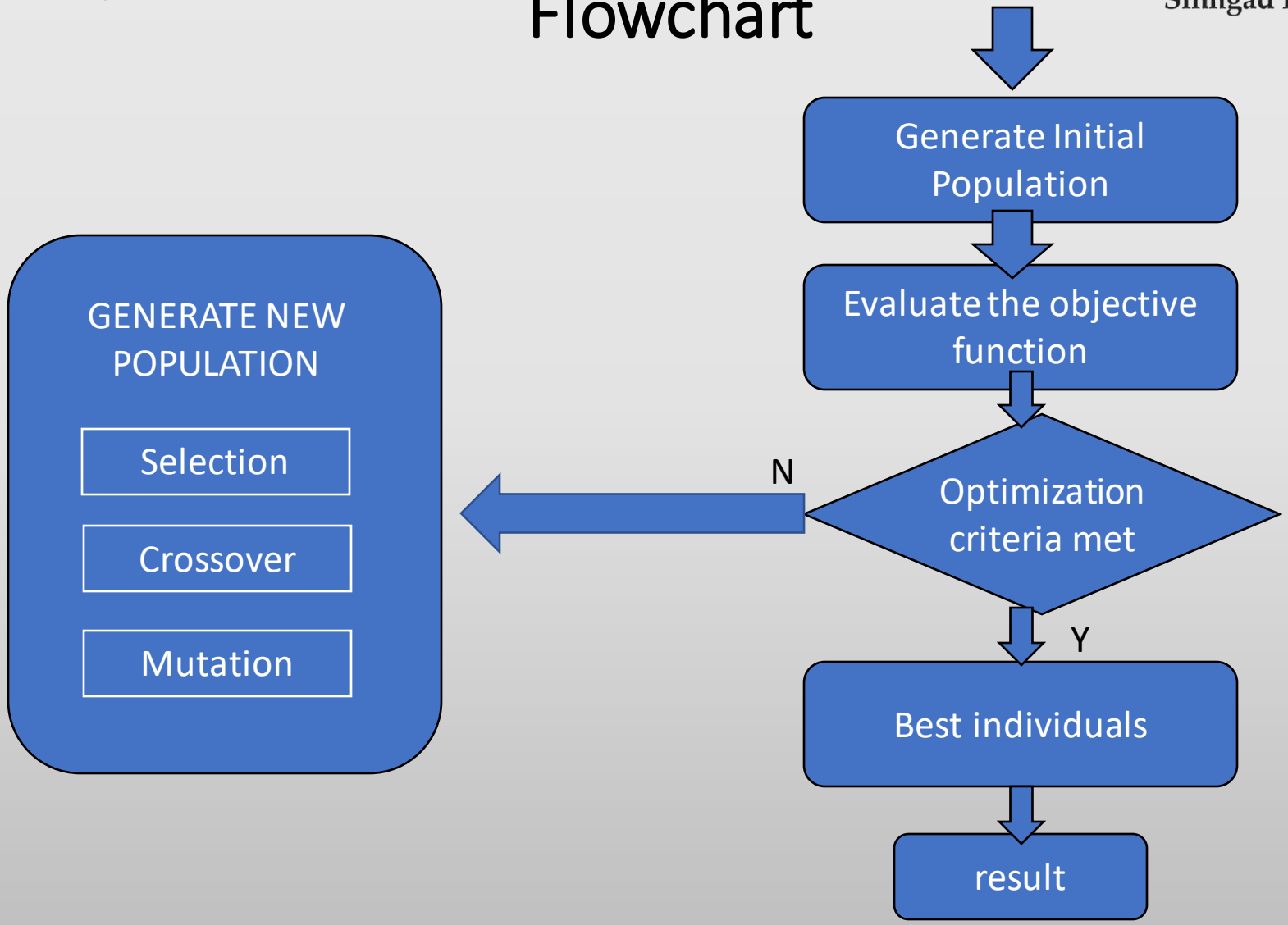
Flowchart



Software And Hardware Requirements

Software Requirements	Hardware Requirements
Python Language	30 GB of free disk Space
Anaconda	CPU: 1 GHz Peripheral Devices: Mouse, Monitor, Keyboard

Advantages

1. Saving Time & Money
2. Increase business productivity
3. Gives best shortest route
4. quick and effective
5. Pocket & Environment Friendly

Conclusion

The vehicle routing problem with so many constraints was studied. So many algorithms were developed for finding the optimum route of the vehicles for minimizing the time and cost . Genetic algorithms were used to optimize the time in addition to the cost minimization.

FURTHER WORK

- Routes based on time of the day
- Incorporate weather data and forecasts
- Who else can benefit from it: FedEx, USPS, DHL, or any other delivery service with determined daily delivery location.

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Links –

- https://www.thoughtco.com/degree-of-latitude-and-longitude-distance-4070616#:~:text=Each%20degree%20of%20latitude%20is,68.94%20miles%20(110.948%20kilometers).
- https://stackoverflow.com/questions/61471765/xgboost-what-data-to-use-in-the-watchlist

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Thank You !