



Northeastern University
College of Engineering
Department of Electrical and Computer Engineering
EECE 2560: Fundamentals of Engineering Algorithms
Fall 2024

Project: Autonomous Robot Package Delivery

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Introduction

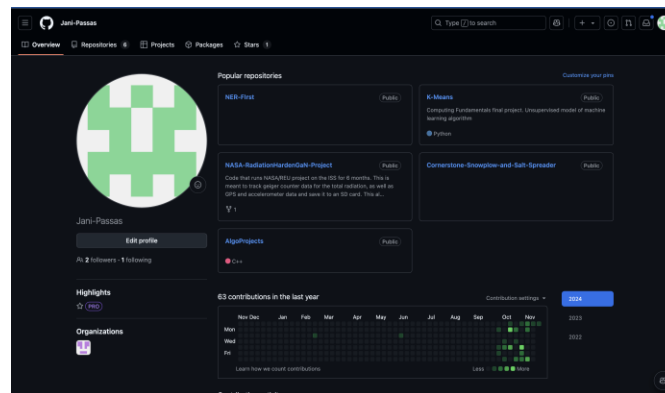
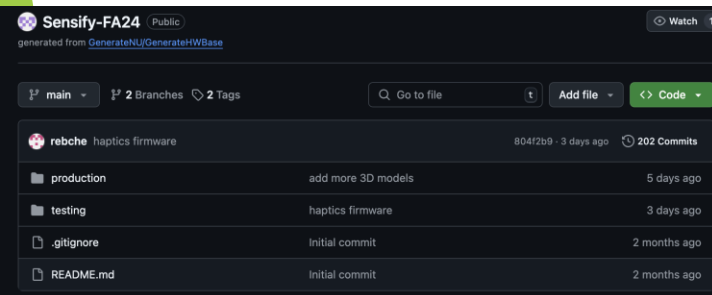
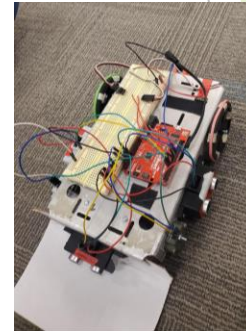
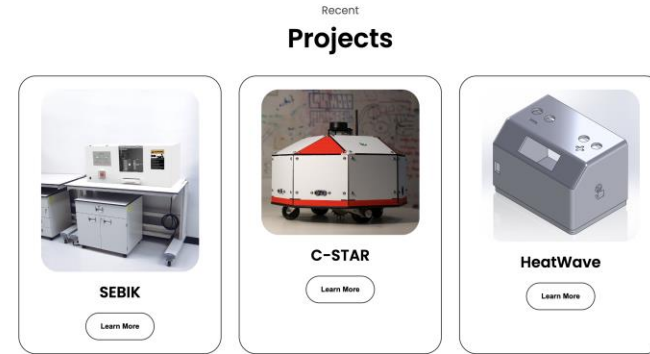
Project Scope

- To allow delivery vehicle to most efficiently deliver packages
- To enable robot to autonomously navigate obstacles
- To develop a robust backtracking algorithm that can be applied to other fields
- Expand into greedy/graph algorithms by incorporating the car fueling along its path
- Incorporate the outputs onto a UI on a front-end web page

Previous Experiences

HTML &
CSS

C++



Git

Data Structures

Vectors

- 2D matrix of maze and all paths

Queues

- Priority queue and min-heap

Methodology

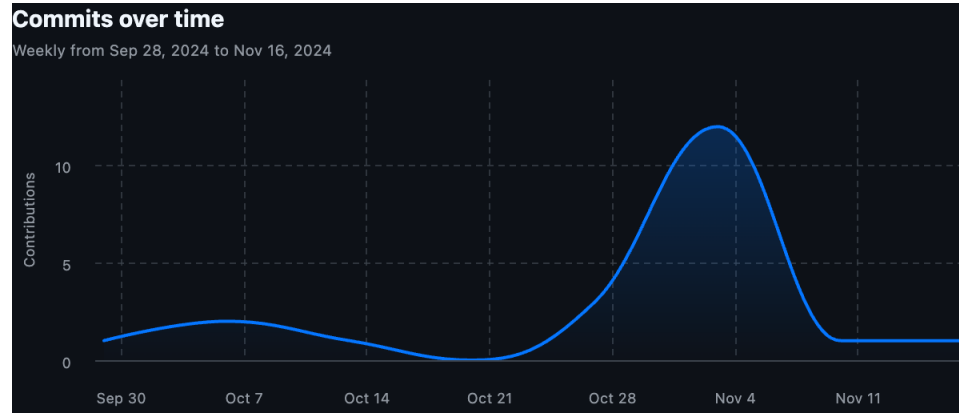
Dynamic Programming

- Vectors of all paths

Queues

- Priority for greed

Analysis and Results



Discussion

- ▶ Implications of Findings
Study Limitations

Conclusion

- ▶ Conclusions from the Study
Recommendations for Future Research

References

- ▶ List of All Cited Sources