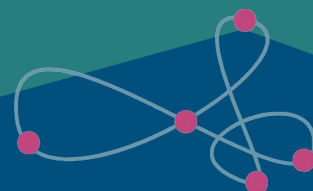**AI 4 Manufacturing Canada**

Case Study

UTILIZING AI TO MAXIMIZE THROUGHPUT & FILL ORDERS FASTER

Alberta Machine Intelligence Institute (AMii) partnered with Attabotics to implement and scale artificial intelligence (AI) and machine learning (ML) to maximize throughput. When AI and ML-based technology were deployed it showed potential system speed gains of over 25%.

amii

Goals:

Improve robotic supply chain system to maximize the throughput of the system through AI & ML, helping clients fulfill orders faster and get products out sooner.

Introduction

Attabotics designs and deploys warehouses across North America, working with clients like Canadian Tire. Their revolutionary approach is inspired by the structure of ant colonies and uses autonomous robots, which can travel both horizontally and vertically to grab bins of products. The high-density 3D design allows Attabotics to build more compactly, taking up 85% less space than traditional warehouses.

On any given order, the system needs to decide which bin should be retrieved, which robot should retrieve it and the station the robot should deliver to. These decisions, spread across numerous orders with countless SKUs, have the potential to create a long order backlog.

Technology

Amii's expertise in approaches such as supervised learning and reinforcement learning has helped Attabotics drastically improve order fulfillment throughput. The project has used both simulation and historical real-world data to optimize the throughput of the system in different ways.

With the help of AI, such decisions can be made quickly and far more intelligently to improve efficiency and reduce that backlog – meaning robots are picking and delivering orders much faster, without increasing their speed. Products can now be retrieved faster and get to the customer sooner.

https://www.amii.ca

"Our work with Amii has allowed us to realize so much systematic potential. Our early prototypes have shown potential system speed gains of over 25% by using AI and ML to make better order management and routing decisions within our system,"
- Sean Murphy, Director of Innovation, Attabotics.

Who is AMii?

The Alberta Machine Intelligence Institute (Amii) is one of Canada's three centres of AI excellence as part of the Pan-Canadian AI Strategy. An Alberta-based non-profit institute that supports world-leading research in artificial intelligence and machine learning and translates scientific advancement into industry adoption.

Ready to maximize your throughput?

Implementing advanced technology to maximize your throughput will positively enhance Canadian company's competitive advantage. Is your company ready to take the next step? Learn more today by connecting with the AMii team.

AMii
hello@amii.ca
#1101, 10065 Jasper Ave
Edmonton, AB
T5J 3B1