PROJEKTKURS I DATATEKNIK 2024 @ FUTURE ORDERING

About Future Ordering

Future Ordering Sweden AB

We are providing a digital ordering platform for global restaurant brands. Born in Stockholm, Sweden, Future Ordering has for almost 10 years been working restlessly to create a platform to disrupt the global Food and Beverage industry. We are powering some of the most profitable restaurant chains today, running in 10 countries, with millions of transactions per month.

Insights in data for the QSR industry

Background

Future Ordering are a service provider for major QSR brands and have approximately 50% of all the transactions across the major QSR chains in a clearly defined geographical region consisting of 3-4 countries. It should be noted that the purchase behavior is consistent with all western markets.

The data clearly describes the habitual behaviors of a population's fast-food consumption and frequency in a clearly defined geographical region. In short, the cost and revenue drivers for an industry.

Discovery
During the first project phase the students will get introduced to a large data set of aggregated and anonymized data collected over 7 years and growing with 15% per year. The data require moderate cleaning and preprocessing.

Applications
Insight applications will be developed as applications for the Unified Management Portal which is a low effort integration but requires work on how to visualize and present.

Insights
The data can be used to understand and forecast consumer purchase trends, pricing, product development, staffing, new establishments, over-establishment in combination with external datasets like weather, demography etc. The final insights to be explored will be determined by the students and Future Ordering stakeholders.
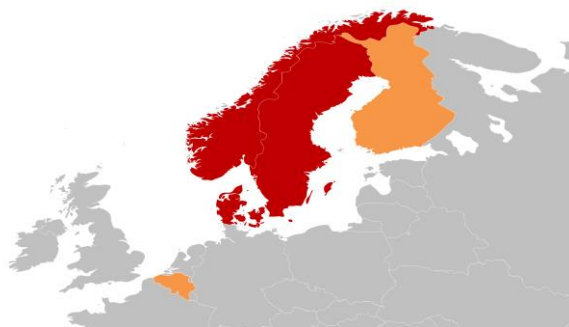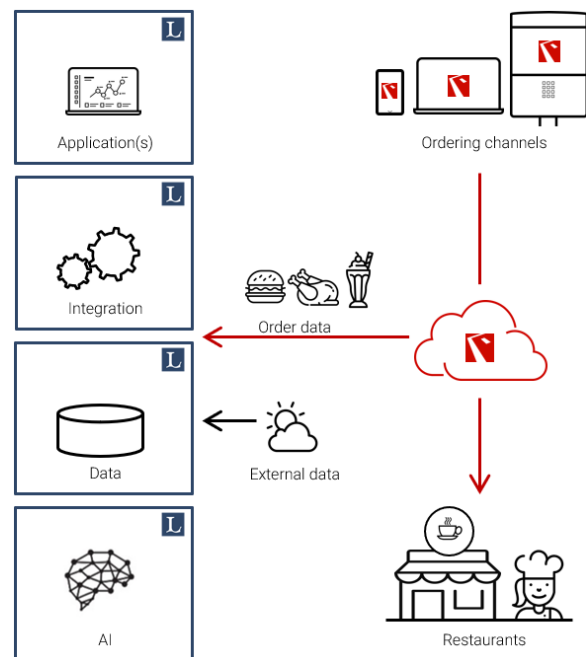
Another exciting and highly valuable opportunity is to be able to predict how new establishments in new countries (with less or no data) will behave in combination with local conditions.

Master thesis opportunities
There is a good opportunity to continue the work post project in the form of a master thesis.

Project outline

- Introduction to the QSR industry and Future Ordering   (FO CEO)
    - o QSR – Quick Service Restaurant
    - o Future Ordering introduction
    - o Project introduction
- Architecture   (FO Architect)
- Data collection and cleaning   (FO Development resources)
- Discovery   (Students)
    - o What valuable insights can be found in the data
    - o Select tech/AI to extract insights of data
- Insight applications   (FO + Students)
- Divide into teams, for example,   (Students)
    - o Data scientists
    - o Application developers (Management Portal Apps)
    - o Integration
- Development phase   (Students supported by FO Architect)
- Presentations (Future Ordering + LTU Project presentation)   (All)
- Report   (All)

Prerequisites

Terms and requirements - Future Ordering (FO)

- Future Ordering can engage up to 10 students (maximum).
- Students will be contracted as project employees with a salary of 10 000 SEK for the project.
- Future Ordering will provide a room at our Luleå offices with ad-hoc access to CPO and Architect next to Coop Arena at Midgårdsvägen 5. Physical presence is recommended but not required. The students will work on their own computers.
- Students must sign confidentiality and data processing agreements.
- FO will provide raw data, domain expertise and guidance.
- FO will cover all costs related to agreed software.
- FO will own all rights (IP/source code) related to the project.
- Microsoft based technology is preferred but not mandatory.

Success stories

D7017E of 2020 and the outcome

Students worked in the Future Ordering offices, but also remotely due to Covid-19, to produce a prototype of a food collection area using AI on integrated hardware together with an application in a distributed system supporting state consensus across multiple raspberry pi units.
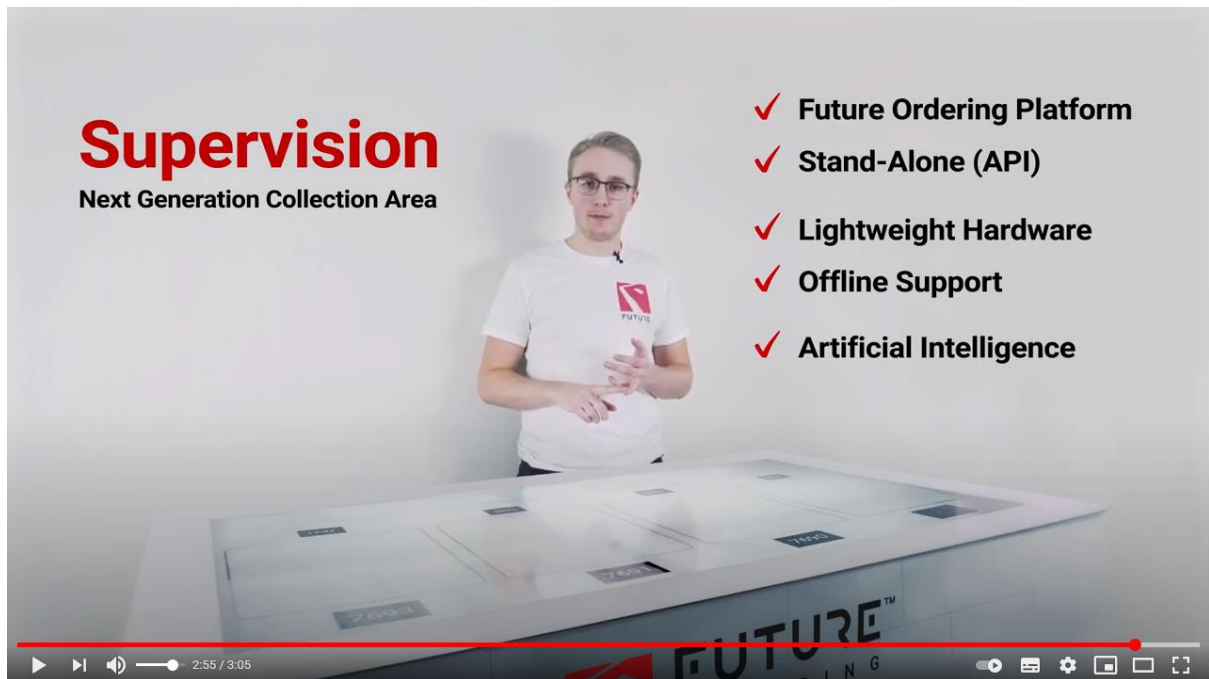
View project video: www.futureordering.com/supervision

The result:

- An AI application used for real-time object detection inference and interpretation.
- An application integrating Future Ordering's ordering API's but also the object detection application together with state monitoring and basic consensus protocols.
- Training software that generates more samples through augmentation and trains an object detection model using existing state of the art methods.
- Image classification software for recognizing hand signs. Intended to be used for manual override of the object detection system.
- A real-life working prototype showcasing the advantages of Supervision in QSR operations.

Two of the participants of D7017E 2020 are today employed as system developers at Future Ordering.

D7017E of 2019 and the outcome

Future Ordering engaged the students to create a solution to make predictive modeling for food & beverage digital ordering. The mission was to use historical purchase data, algorithms and machine learning (AI) to make data driven recommendations.

The result:

- A complete solution consisting of an entire pipeline including data-factories, data cleaning, machine learning model training and ultimately deployment to live use case scenarios.
- The project included investigation of four intelligent machine learning models and their ability for use for in recommender system within the Food & Beverage industry.
- Given the interesting data driven problem scenarios available, three of the project students immediately began their master thesis projects at Future Ordering. Another three students were recruited and are today employed at Future Ordering.

Six of the participants from D7017E 2019 are today employed as system developers at Future Ordering

D7017E of 2018 and the outcome

Future Ordering submitted a project with the mission to invent a conversational engine enabling voice ordering of food and beverage.

The results the students produced were outstanding.

- The conversational ordering engine produced by the team is being used for demoing future ordering capabilities for some of the world's largest Food & Beverage organization with a huge "WOW" factor.
- The result will in time become a part of the Future Ordering platform as the next ordering channel.
- Four of the project team members were recruited immediately after the course to work with Future Ordering and are today, eight months after the course, highly skilled software developers in Future Orderings payment, frontend and backend teams.

Four of the students - Carl, Johan, Fredrik and Henrik from d707E 2018 were later employed and became software developers at Future Ordering.