



Using machine learning to improve the customers Jyrney

STFC Hartree® Centre worked with Jyrney as part of the EDRF-funded CW4.0 programme using machine learning to improve customer service and travel by optimising taxi car allocation.

Challenge

Jyrney is a ground transport booking and management company looking to transform the private hire industry by providing a comprehensive mobility platform bringing together ride-hail, taxi, private hire, and chauffeur for any travel booking tool. Currently, the taxi and private car hire industry suffers from inaccurate travel time and route descriptions which leaves vehicles idling or running late and can damage the customer experience through inefficiencies. Jyrney is looking to create a service that optimises the allocation of available taxi fleets, providing accurate pick-up time estimates while simultaneously connecting various ground transport operators and selecting the best options for the customer. This enables Jyrney to offer a solution to the traveller that removes taxi pick-up anxiety by automatically reallocating late running vehicles to alternative operators, helping to reduce pollution and deliver better service for customers.

Approach

Data scientists at the Hartree Centre developed a machine learning algorithm and an application programming interface (API) to map and process taxi journeys. The API was designed to help Jyrney predict when a taxi would not be dispatched on time and connects with an integrated warning system to ensure vehicles are reallocated to another company who have an improved chance of picking up on time. The team investigated different ways of mapping routes which led them to implement a free open-source solution for Jyrney. This solution provides optimal time management for car hire companies and delivers better service to customers.

Benefits

The power of fast, high-quality machine learning mapping created a more accurate view of travel times and route descriptions, improving car management and customer service. The data science team developed multiple solutions for Jyrney to be able to map vehicle travel so they can integrate the option most effective for them and their customers. This data collection also gave Jyrney a unique view of how vehicles move across the country, improving the company's service. The Hartree Centre also worked with Jyrney to create a database of vehicle emissions to help provide options for greener travel routes.

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Our collaboration with the Hartree Centre proved instrumental in understanding the challenge at hand and developing an innovative solution using data driven insights.

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Daniel Price
Jyrney





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By harnessing the potential of machine learning, we have successfully identified key improvements that significantly enhance the traveller's experience, ensuring their journeys are seamless and punctual.

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Daniel Price
Jyrney

At a glance

- Enhancing customer service for taxi hire companies by reducing customer waiting times.
- Lowering business costs and the waste of resources by optimising travel times and routes and reducing vehicle idling time.
- Creating a unique data set that maps logistic routes across the country.
- Helping reach industry Net Zero goals by reducing pollution from inefficient car journeys.
- Provided multiple technical solutions so the company can choose the option that works best for them.
- Using fast, high-quality machine learning algorithms to improve the mapping of route descriptions.

Who we are

- 70+ computational scientists and technologists
- World-leading supercomputing and AI infrastructure
- Bespoke small teams built around your project
- Tailored business development support
- Access to our network of industry, academic and technology partners

What we do

- Boost productivity and enhance innovation for industry
- Big data analytics and artificial intelligence (AI)
- High performance computing and quantum simulation
- Training and skills development
- Insights into future technologies



Credit: STFC Hartree Centre

Our impact on UK industry and society

The Hartree Centre was created by UK Government to help businesses and public sector organisations accelerate the adoption of high performance computing (HPC), big data analytics and artificial intelligence (AI) technologies. We play a key role in realising UK Government's Industrial Strategy by stimulating applied digital research and innovation, creating value for the organisations we work with and generating economic and societal impact for the UK.

The Science and Technology Facilities Council (STFC) Hartree Centre is part of UK Research and Innovation.