

# Artificial Intelligence

Planned

## Spatial Predictions

Many industries require the prediction of spatial phenomena, for example:

- The location of hostile forces in Defence.
- The spread of a bushfire in emergency management.
- Potential crop yield under different management treatments in agriculture.

In most industries, predictions are based on fixed equations which have not been updated based on experiential data.

Predictions also require people with specialist skills and cannot be made in real-time. Often this means predictions do not reflect the latest intelligence and are hours/days out of date.

While Artificial Intelligence (AI), which mimics how humans learn at the cellular/biological level, is a potential solution to these problems, to date AI has proven to be a poor means of predicting spatial phenomena.

This is at least partially due to the poor quality and low availability of spatial data.



The equations currently used to predict the behaviour of bushfires in Australia were developed more than 50 years ago. They have not been adjusted despite their application at 100,000+ fires and have a number of known problems and limitations.

# The solution

*A no code platform for developing enterprise level real-time map based collaboration and analytics systems.*



**LA TROBE**  
UNIVERSITY

Zirkarta is supported by the La Trobe Accelerator Program

Zirkarta enables a user to make a change to a map with that change visible to all users in real-time. Data is automatically logged and used to compile a database as a by-product of using the system.

Patented predictive geospatial AI, which mimics how humans learn and make predictions at the behavioural level, use this data to make predictions of spatial phenomena.

As the system is used for management, more data is added to the database. Hence predictions are based on the latest experiential data. Predictions can be automatically updated based on the latest intelligence (e.g. a fire fighter moves the fire edge on a map) and predictions can be distributed to all users and the public in real-time.



## Applications

- Emergency Management
- Defence and Border Security
- Land management including agriculture, conservation management and forestry

zirkarta

zirkarta.com | dylan@zirkarta.com | 0468 681 558  
Patent pending Australia, USA, Canada  
May 2018