

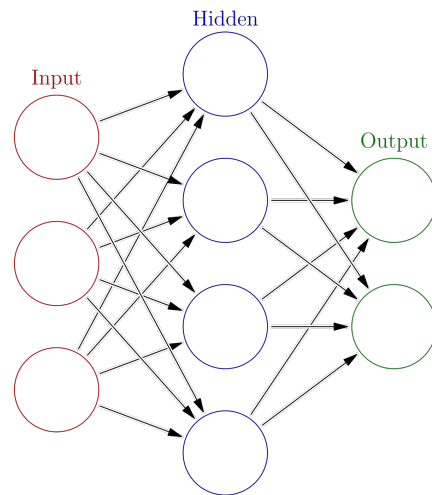
Machine Learning Challenge 2023: Object Recognition

The background features a dark blue gradient with a faint grid of binary code (0s and 1s) in the upper half. In the lower half, there is a complex network graph with numerous white and light blue nodes connected by thin, glowing lines. A bright yellow-green light source is positioned at the top center, casting a beam of light downwards through the network.

With Turing Innovation Catalyst
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What is a Neural Network?

- Designed specifically for image classification tasks
- Tailored to recognize patterns and features within images
- Examples of applications: identifying diseases in medical images, recognizing objects in self-driving cars, etc



Model Goal: Identifying objects and letters

- Objective: identify various objects and letters within a series of images
- Chosen targets: Bee, Football ball, Laptop, Letter M, Letter T, Train



Dataset Creation

Structure:

- One main directory named "Dataset"
- 6 sub-directories, each containing images of a specific object or letter

Dataset

- ├── Bee
- ├── Football ball
- ├── Laptop
- ├── Letter M
- ├── Letter T
- └── Train

Model Development in VS Code

- Install and import necessary libraries
- Data preprocessing: load, split data into training and testing sets, rescale, resize
- Develop the neural network architecture using the Keras library
- Compile, train and evaluate
- Check the model by predicting a random picture from the test set