SmartScope - World as Seen by AI

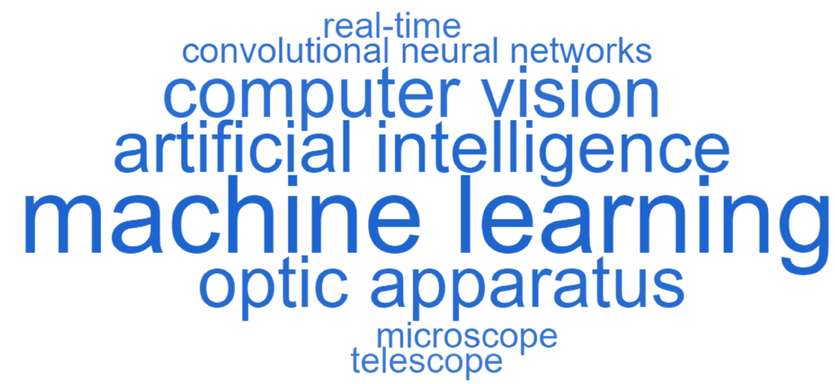
Ion Orins

Introduction

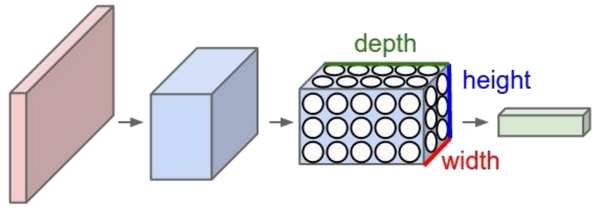
SmartScope is a project that uses **convolutional neural networks** in order to enhance the user experience of a **conventional optic apparatus**. It consists out of two subprojects: SmartScope Micro and SmartScope Macro.

SmartScope Micro is an **AI-driven** microscope which can classify the nature of the material it comes in contact with. SmartScope Macro is a telescope powered by **machine learning**, which can detect celestial objects in **real-time** and highlight their trajectory.

Technologies



Neural Network



General structure of a convolutional neural network

Applications

SmartScope Micro can **classify**: plant tissue, fabric, rock, epithelium, unicellular organisms.

SmartScope Macro can **detect** and **highlight** the trajectory of nebulae, planets, galaxies, spacecrafts, star clusters, supernovae remnants.

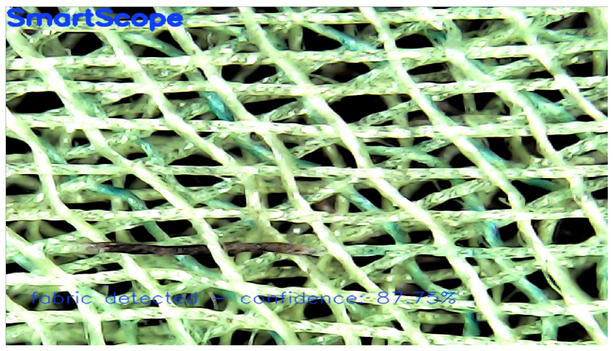
Advantages

Devices which seek to achieve these tasks comprise a limited offer at the moment and are both expensive and difficult to access. As a system which enables users to perform these tasks on **accessible hardware**, it brings an essential advantage.

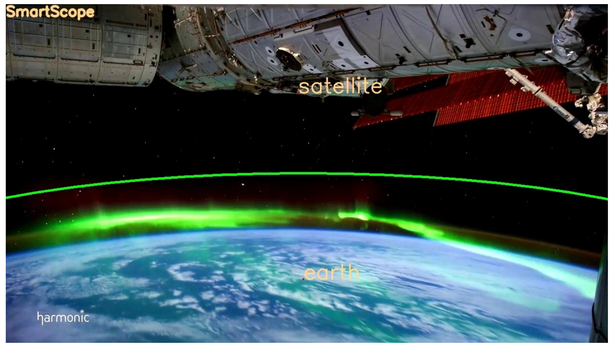
Motivation

Computer vision could provide **essential aid** in situations which would normally require a specialist. This project is meant to be a versatile tool for **classification** and **detection** tasks in the fields of **Astronomy** and **Biology**.

Micro



Macro



Team

Solenoid Labs

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