

GreenThumb IO Announces Completion of Cannabis Smart Camera AI & Automated Feeding Prototype

SAN FRANCISCO, CALIFORNIA, UNITED STATES OF AMERICA, February 10, 2019 /EINPresswire.com/ -- [Justin Bowen](#), CEO of [GreenThumb IO](#), has completed the development of an automated greenhouse solution using AI to interface with smart cameras and a dosing system. He is now pulling inspiration from projects like Google's Deep Mind to build a fully automated cannabis cultivation process in the next two to five years.

In 2018, Bowen built the hardware for smart cameras to collect training data from his own grow facility and has used that data to train neural networks modeled to perform leaf and bud analysis on images. This integrates with his automated dosing system, which is currently set up to feed the plants remotely based on the data that is obtained.

The GreenThumb IO beta is similar to AIs such as Tesla's auto-steering beta, which can suggest lane changes to drivers but requires human confirmation before taking action. Today, the GreenThumb IO system can send alerts to growers when plants are deficient and suggest actions that can be triggered remotely. This can be used in any controlled growing environment by installing cameras and automated dosers, or by integrating with a grower's existing hardware.

In 2019, Bowen has completed the data pipeline to train the neural nets and will continue to train and test those neural nets with data from more grow operations. GreenThumb IO will also release its platform for web and mobile this year.



Bowen has been blogging about progress and releasing prototype code since April 2018, and will be releasing open source packages to allow a community of DIY users to collaborate on the hardware, software, and mechanical elements of the project. The community will be able to use the system standalone or pay for the platform.

Ultimately, the goal is to create an automated system that manages the cannabis cultivation process end-to-end, including actions such as pruning and harvesting using robotics and reinforcement learning. Bowen has pulled inspiration from projects like Deep Mind, which use reinforcement learning to train AI to play video games such as DOTA and win every game. With reinforcement learning, every frame of the game is a state observation, such as where the player is and their health metrics, which is similar to the frames collected by cameras in greenhouses. Over time the AI learns the risks and rewards involved and is able to learn from previous games, or in this case, harvests, improving on them each time.

In the short-term, while continuing to build, GreenThumb IO is also working toward strategic partnerships with growers and securing the seed funding needed to build a team and accelerate development.

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