



# PerceptiLabs Visual Modeling Tool

Reduces the risk and compresses the time-to-value of modeling

Artificial Intelligence (AI) is transforming the world in which we live. Banks are using AI to identify potential fraud, healthcare providers are using AI to assist with diagnosis, grocery stores are building algorithms to predict consumer behavior, and much more. Today, as businesses rush to accelerate their digital transformations due to COVID-19, AI is becoming more crucial, penetrating more business-critical functions than ever before.

Machine learning (ML) and deep learning are the techniques used to realize the promise of Al. Here, complex mathematical models (or ML models) are built to take existing data, and use it to make predictions on what something is (like an image), or what event may happen (like a consumer choice). These

### Who is this for?

#### **Builders & Creators**

Experts like Data Scientists and Data Engineers, as well as developers just getting started in machine learning can all use PerceptiLabs to build, train and test any type of model.

#### Managers

Product managers or Innovation managers can use PerceptiLabs to review their team's progress, gain insight into how a model is working, and approve models before they are pushed to production.

#### Why TensorFlow?

TensorFlow is currrently the number one framework for building machine learning models. However, TensorFlow lacks a GUI for easier development and visualizations for advanced explainability.

PerceptiLabs acts as a layer on top of TensorFlow, making that development more efficient and streamlined. models are typically built by specialized talent who can be expensive and hard to find.

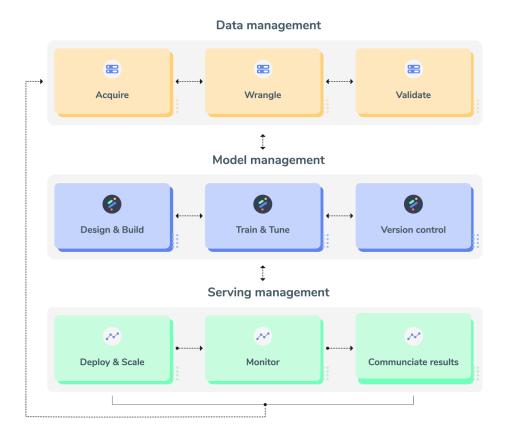


Figure 1: Phases of the typical machine learning workflow.

Within the ML workflow (see Figure 1), Model Management, which consists of the Design & Build phase, Train & Tune Phase and Version control has been the most complex part, primarily because it's the least transparent. This has made it a black box for both model builders and managers alike. Until now.

## A new visual way to build models

PerceptiLabs has developed the next-generation ML modeling tool giving data scientists the ability to visualize what they are building, with an easy-to-use GUI. This makes it simpler and faster for experts and beginners alike, to build, train, and analyze models, speeding up the innovation process. Managers gain

more transparency to better understand what the model is doing and a way to keep track of the team's progress.

### How it works

The ease of a drag and drop UI, the flexibility of pure code, and some of the automation of AutoML.

The drag and drop UI makes it easy for beginners to get started and provides a rich set of components providing all of the functionality needed to build and train virtually any ML model.

The UI also makes the workflow very flexible. A simple toggle allows users to switch between the visual modeler and the code editor. A model can also be viewed and exported to a Jupyter Notebook.

Most importantly, this unique UI gives users full transparency into how their model is architected and a view into how their model performs. See real-time analytics in every operation and variable, and granular previews of output from each model component.

Just drag and drop components and let PerceptiLabs generate the visualizations and TensorFlow code.

### Start building

#### PerceptiLabs Free

A free version for developers. Developers can start building a model with our free verrsion that's installed as a Python package.

#### Simply run:

pip install perceptilabs and then perceptilabs and wait for PerceptiLabs to open in your browser.

### Ready for production?

Once you are ready for production, we have two versions for increased computation power and a smoother experience.

#### PerceptiLabs Team

Runs on Docker

#### PerceptiLabs Enterprise

Team and Enterprise versions of the Model Hub allow you to manage concurrent development of models across team members.

# A visual API on top of TensorFlow

We designed our tool as a visual API on top of TensorFlow, which has grown to become the most popular ML framework. This gives developers full access to the TensorFlow APIs on which models in PerceptiLabs are built, and the familiarity of the framework's components. There is also the freedom to pull in other Python modules which enables an even richer set of functionality for developing and training models.

# Collaborate with a community and team

PerceptiLabs allows users to easily export both their model designs and their trained TensorFlow model files to GitHub. Users also have the option to share and contribute to the default TensorFlow code implementations in which PerceptiLabs initially generates models. For production ready models, PerceptiLabs' Model Hub, lets users can easily manage their models, track their development progress, and collaborate with other ML practitioners.

## That's machine learning at warp speed.

For additional information: <a href="mailto:perceptilabs.com">perceptilabs.com</a> <a href="mailto:modeling@perceptilabs.com">modeling@perceptilabs.com</a>

# PerceptiLabs offers templates to build simple models like:

- Linear regression
- Image classification

#### Or more complex models like:

- GANs
- Reinforcement learrning
- Object detection