

I've learned that when you're trying to solve a problem with machine learning, the entire process is like a guide that you follow step by step. First, you need to clearly understand what problem you're trying to fix or predict. This involves figuring out what a successful outcome would look like. This would resemble something like, accurately predicting whether a customer will buy an apple or banana.

Once you know the goal, the next step is collecting data relevant to that goal. This might mean scraping info from the web, pulling from databases, or gathering from sensors or experiments. Not all data is perfect, so you need to be careful: check for errors, missing parts, and biases that could mislead your model.

After collecting the data, you can then use it for the model. To do this, you must clean up and fix mistakes, fill in gaps, and format it to the way the machine or model can understand it. This can look like turning words into numbers or converting metrics into one. Not doing this during preparation can cause critical errors in your model and it won't learn the way as intended to.

At this point, you can choose your type of model and begin creating your algorithms. You train the model by giving it 'prepared' data and allow it to learn the patterns. During this phase, you will likely need to add adjustments to its settings to make it a model producing model. Once settings are tweaked, you can now test it on new data that haven't been given. This allows you to see if the model is working.

Once the model's performance is up to par and consistent, the next step is to place it into a real-world environment. This can be done by integrating into an app or service where real users or systems can use it to make predictions. After deployment, it's still necessary to monitor its performance. If data patterns continue to change over time, the model may become less accurate. When that happens, it's important to update or retrain the model with new data.

Throughout the process, it's important to remember that each step builds on the last. Ensuring you provide good data and cleanly preparing it, makes it easier to develop an effective model and a well-trained model makes the deployment process more reliable. The cycle of building, testing, deploying, and updating is continuous and keeps the system improving over time.

The workflow isn't about creating a good model. It's about creating a reliable, understandable process that allows you to keep renewing your solution to better meet your needs and goals.