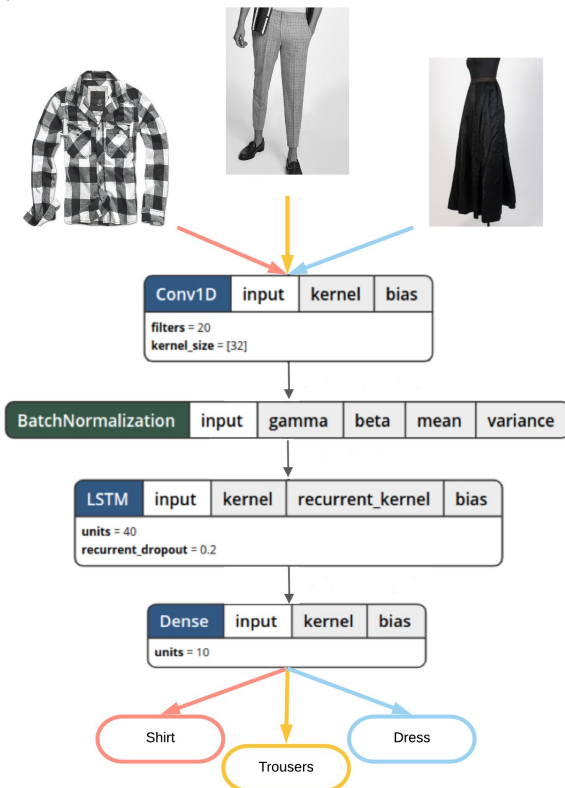


Deep Learning for Opaque Data

MARKET NEED

From object recognition to machine translation, deep learning is being used to automate many complex tasks due to its impressive performance.



Deep Learning Models learn the direct mapping from raw inputs to labels.

However, training a deep learning model for a new dataset is challenging. The number of potential deep learning models to fit a dataset is large due to the required complexity to learn the direct mapping from raw input to output, hence expertise is needed to find a suitable deep learning model among many candidates.

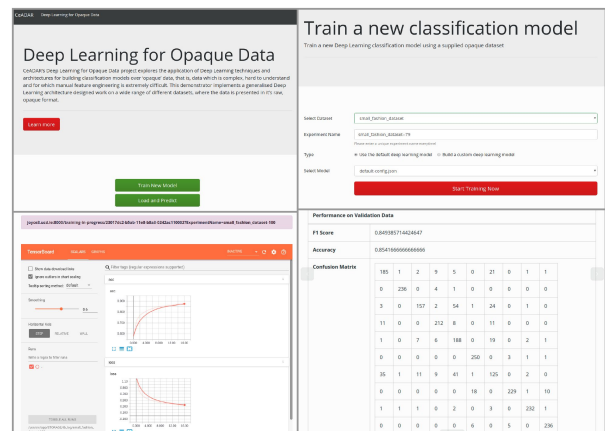
TECHNOLOGY SOLUTION

We devised a systematic protocol to search for a deep learning model with suitable complexity given a labeled classification dataset - where the data representation and encoding is not necessarily known (opaque data). Our experiments achieved competitive results over a number of diverse datasets.

We created a demonstrator to allow industry partners to apply deep learning on new labeled datasets in an intuitive manner; it has a simple user interface to facilitate non-expert use of deep learning.

APPLICABILITY

Our demonstrator makes it simple and straightforward for non-expert users to evaluate whether deep learning can be effective on their own labeled datasets. The software allows the user to build a machine learning classifier without going through the feature extraction process which is time consuming and requires deep domain knowledge. For experienced users, the demonstrator enables the user to quickly evaluate different deep learning architectures.



Demonstrator Interface

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