Table 1: *Context* and *ML variable* description for abstracting model architecture, data properties, and training behavior

Abstraction	Context	*ML variable*	Description
Model Architecture	**last_layer**	last_layer_activation_function	activation function of last layer from model object
		last_layer_output_class	number of output class from model object's last layer
	hidden_layers	last_layer_object	last layer object from model properties class
		last_layer_input_shape	input shape of last layer from model object
		all_layers	name of all layers from model object
		all_layers_activation_functions	activation functions of all layers from model object
		compiled_loss_function	compiled loss function at runtime
Data Properties	**data_normalized**	normalization_interval	difference between upper and lower value of training data
	data_validation	val_acc	validation accuracy after each epoch while training
		train_acc	training accuracy after each epoch while training
		diff_val_acc_train_acc	difference between val_acc and train_acc after each epoch
Training Behavior	**overfitting**	diff_loss	difference between loss value after two consecutive epochs
		diff_val_loss	difference between validation loss after two consecutive epochs
	learning_rate	learn_rate	learning_rate of compiled optimizer from model object
	dropout_rate	dropout_rate	rate of any dropout_layer exists among layers of model object
		zero_gradients_percentage	percentage of neurons whose gradients is 0 in recent few iterations
	gradient_properties	gradients_rate	rate of gradients change from layer to layer in back propagation
		gradient_value	value of gradient of a layer
	oscillating_loss	loss_fluctuation_rate	rate of fluctuating loss in a large range for a long time
	slow_convergence	accuracy_diff	difference in accuracy after each epoch