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Redes Neuronais Artificiais @ KNIME

with Keras

LEI/MiEI @ 2024/2025, 2º sem

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Agenda

- O fluxo Learner-Predictor para Redes Neuronais em KNIME
- MLP: Multi-layer perceptron em KNIME
  - KNIME Keras Integration
    (File/Install Knime Extensions...)
- Experimentação
  (*hands on*)

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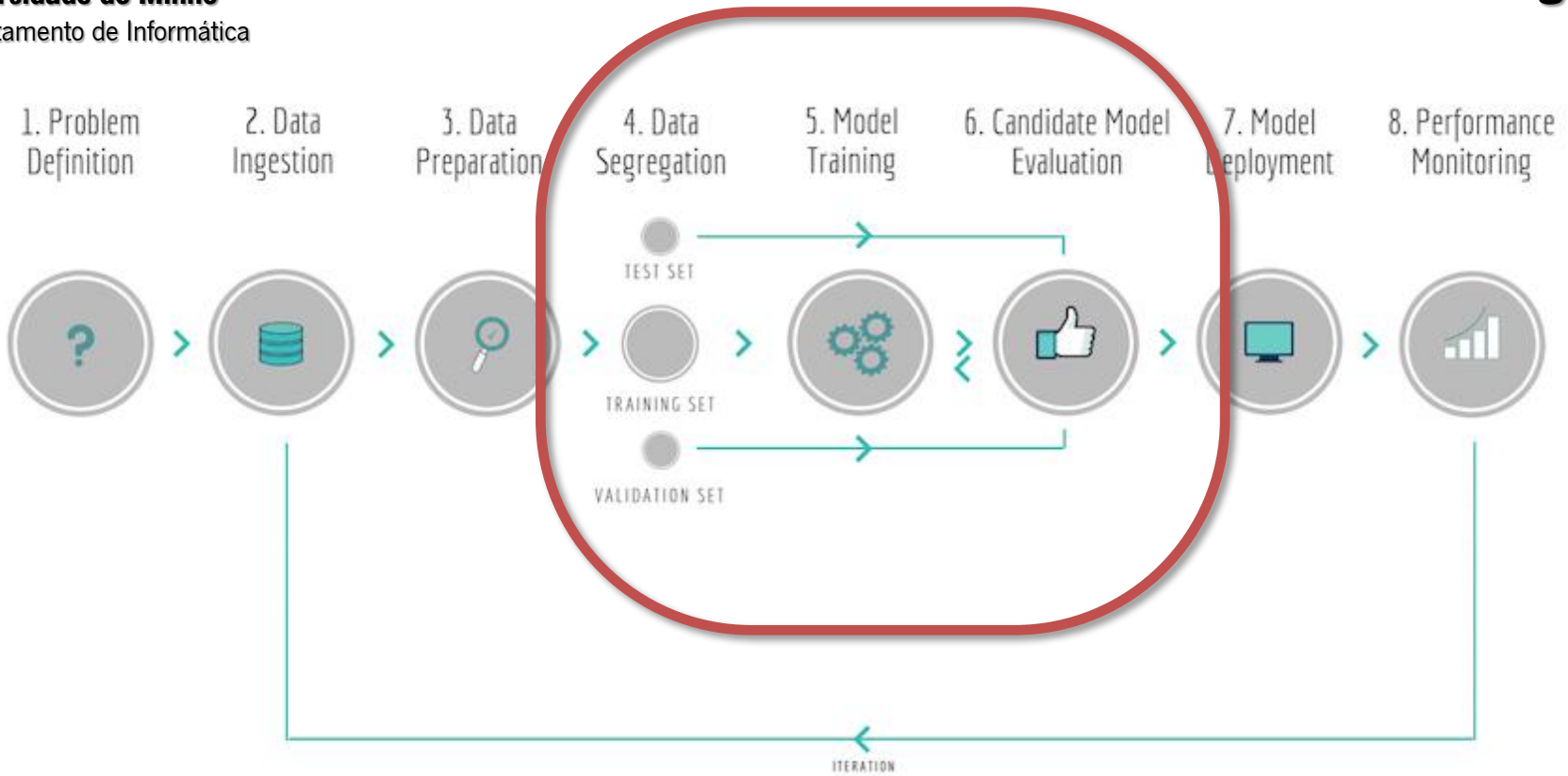
A Machine Learning Pipeline



(https://towardsdatascience.com/architecting-a-machine-learning-pipeline-a847f094d1c7)

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Fluxo de Redes Neuronais Artificiais @ KNIME (Keras Integration)

- A extensão KNIME "Deep Learning – Keras Integration" permite maior controlo sobre os parâmetros de criação de uma RNA:
  - Topologia
  - Estratégia de inicialização dos pesos (valores das sinapses)
  - Regras de aprendizagem
  - Iterações de treino
  - Taxa de aprendizagem
  - ... e muitos outros parâmetros!

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Fluxo de Redes Neuronais Artificiais @ KNIME (Keras Integration)

- Instalar o ambiente Anaconda: [Anaconda Download]

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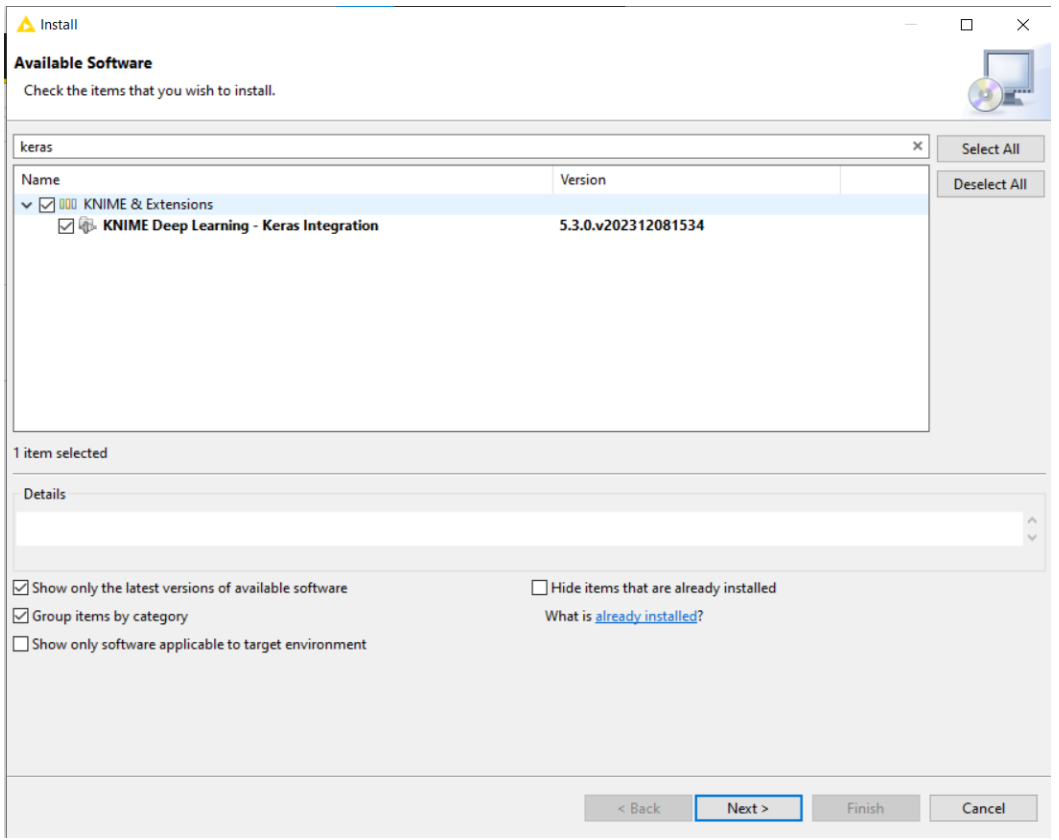

Instalar KNIME Deep Learning – Keras Integration extension

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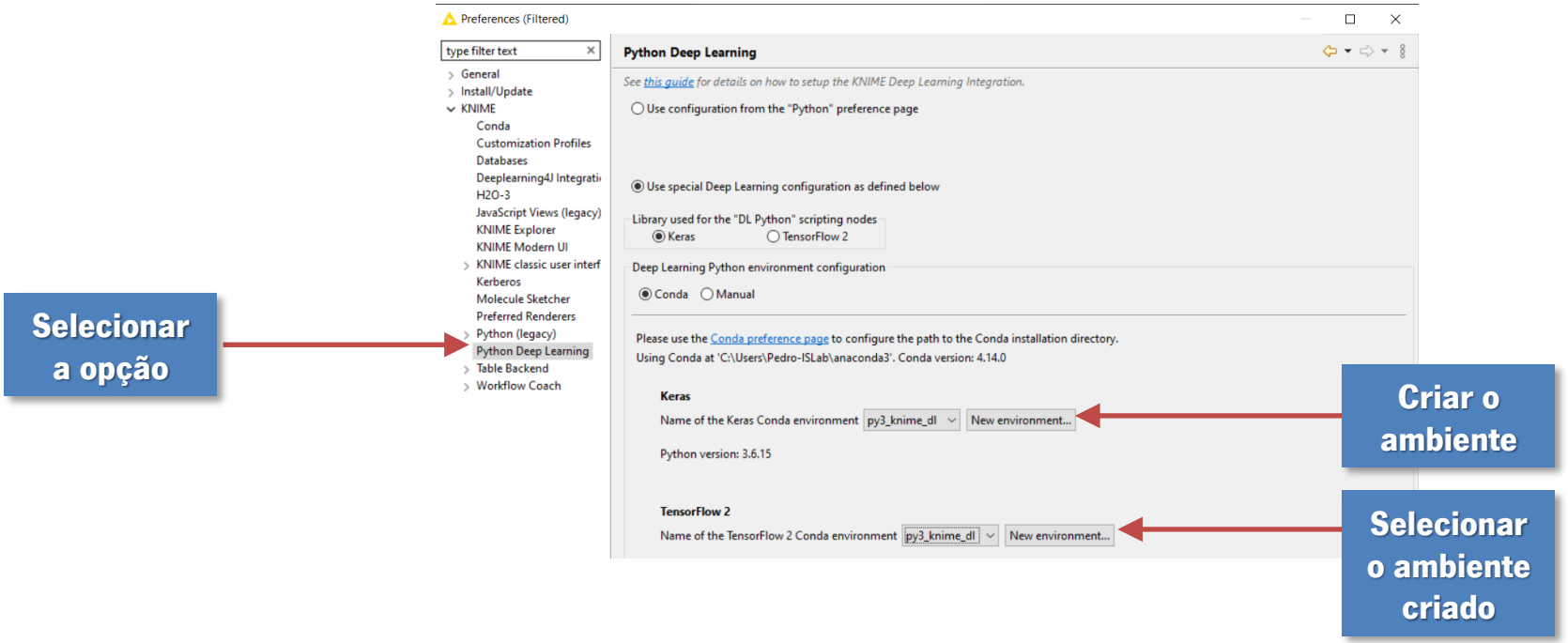
- Criar o ambiente Anaconda



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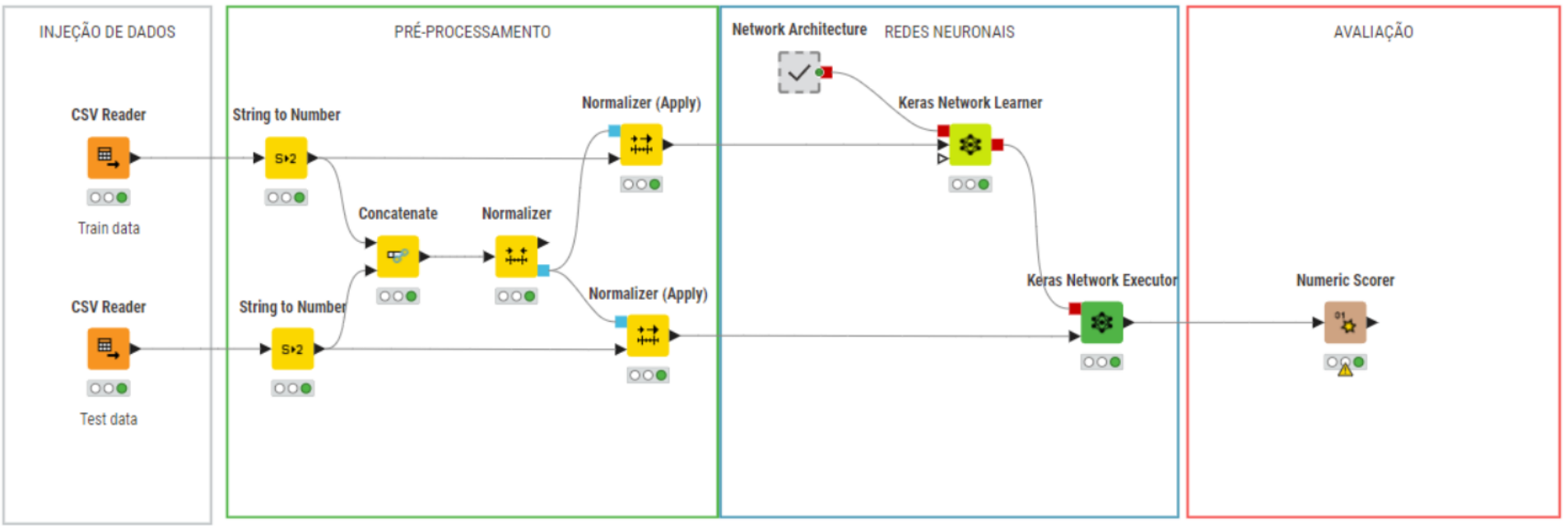

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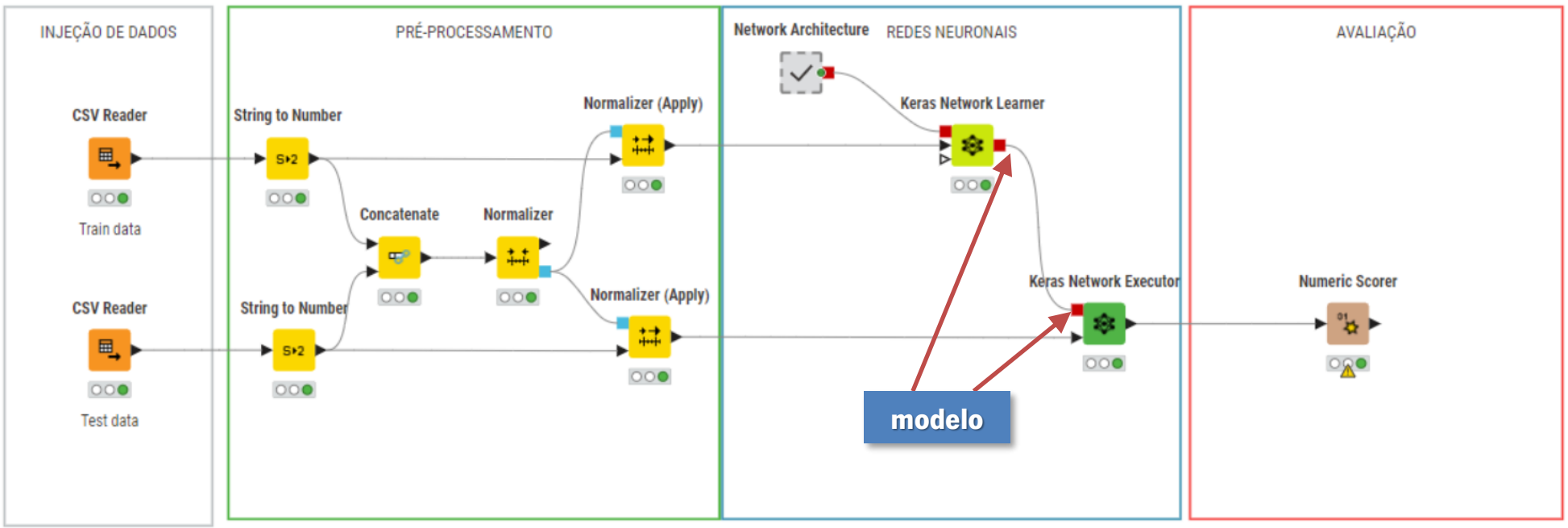

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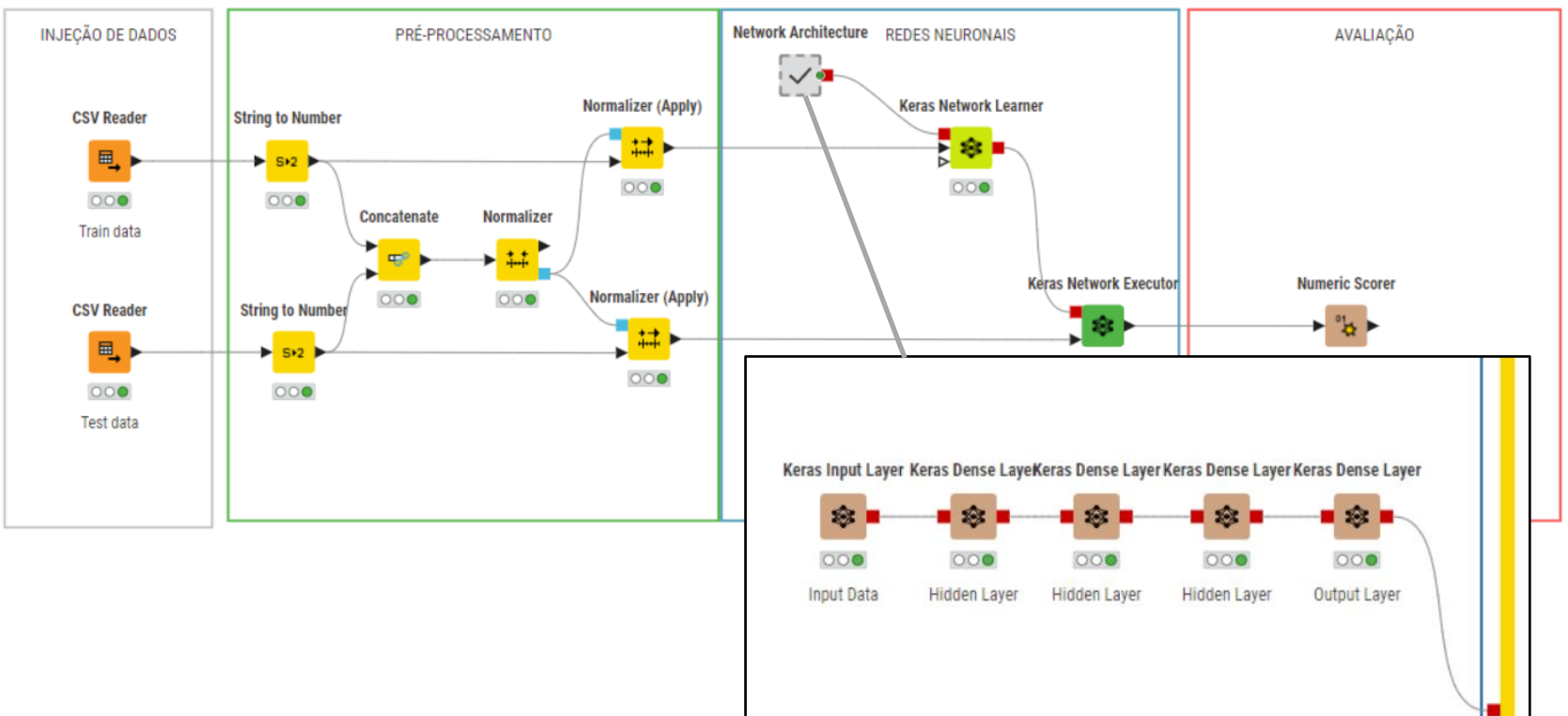

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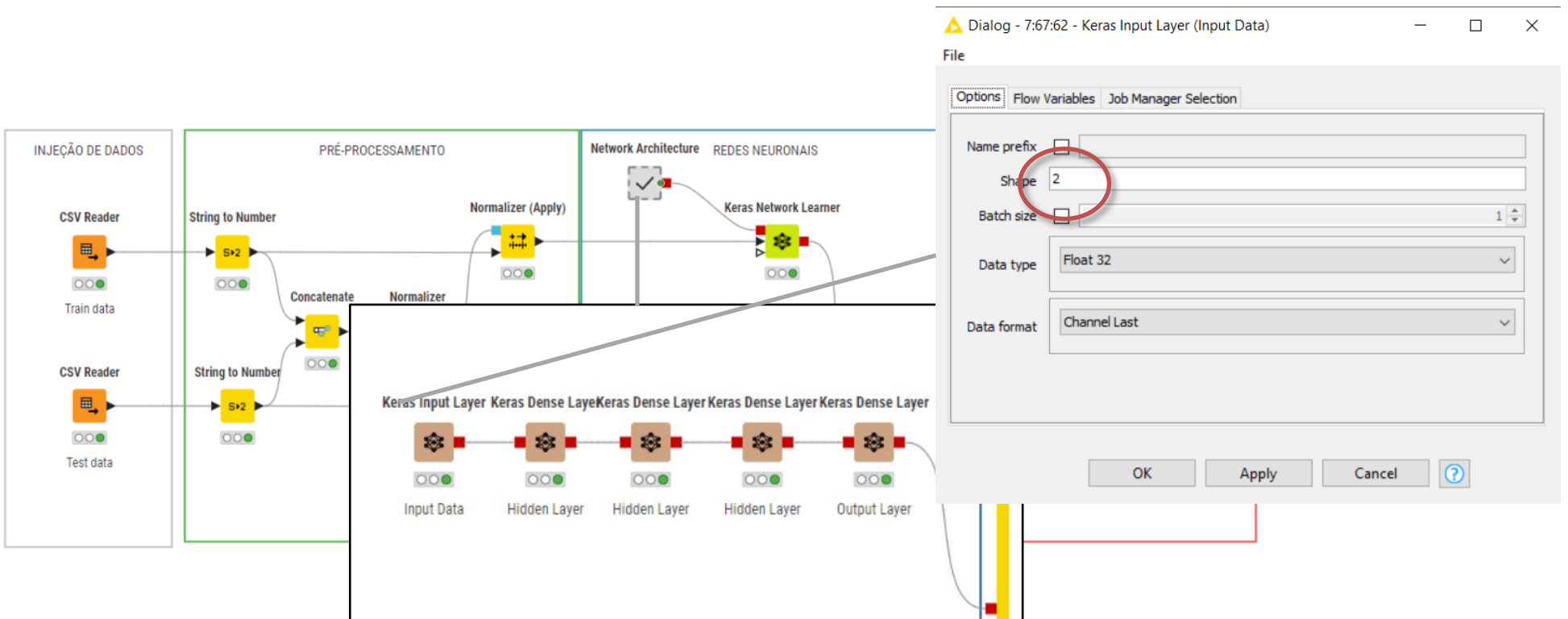

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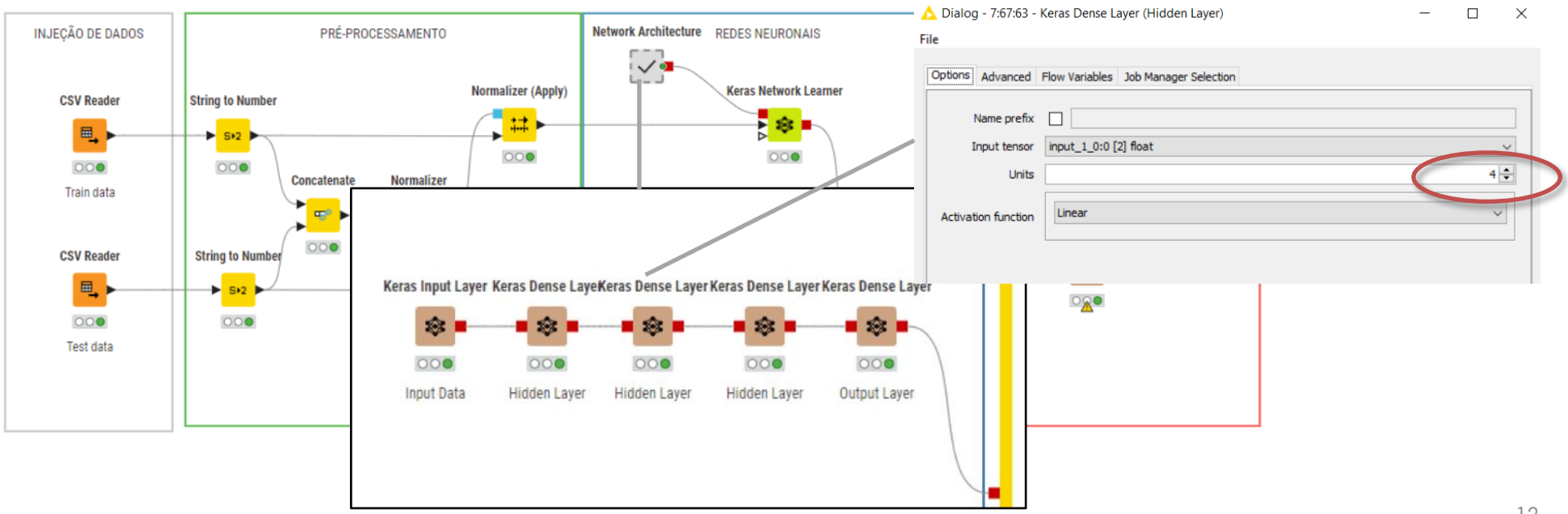

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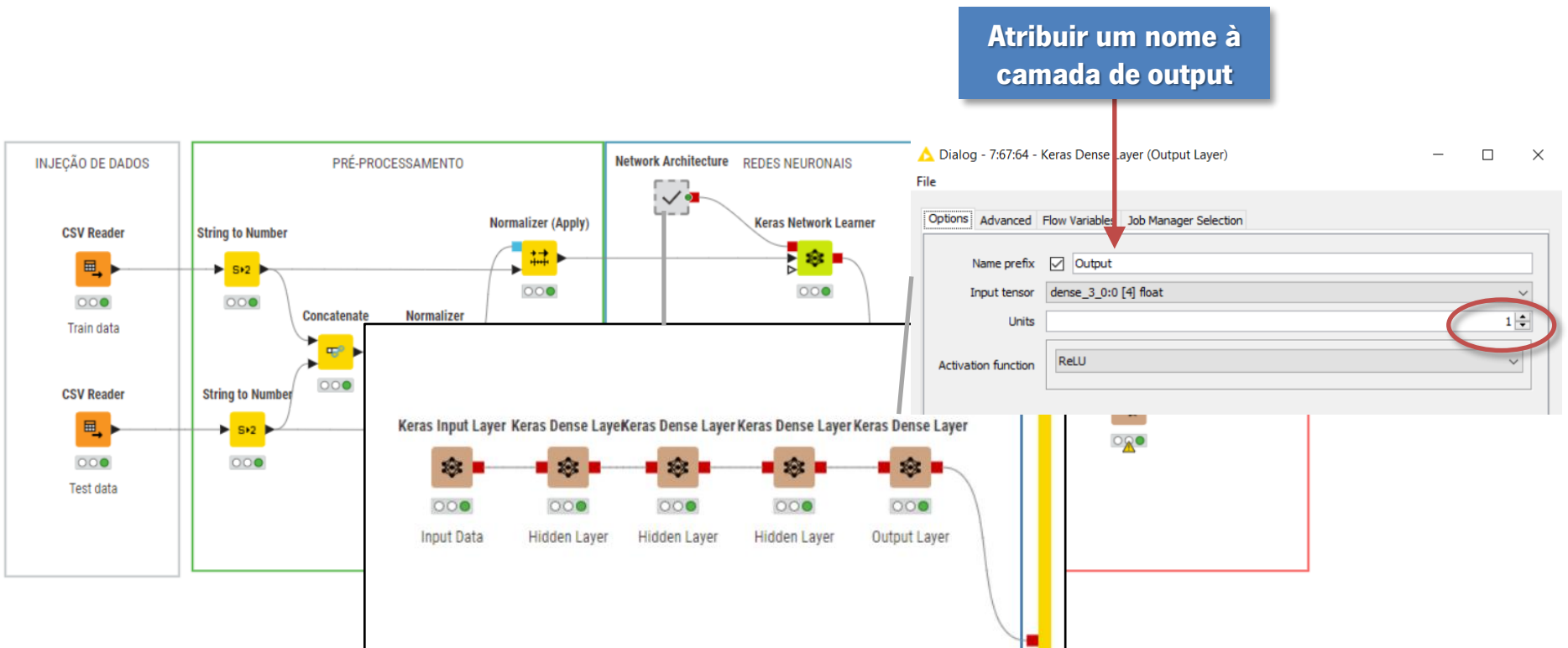

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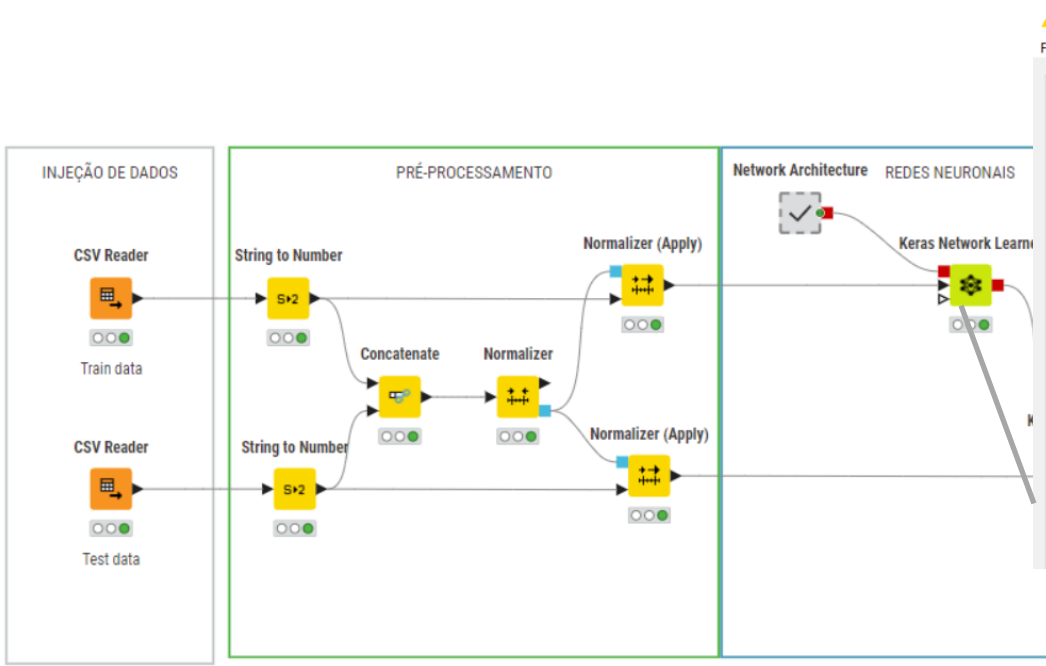

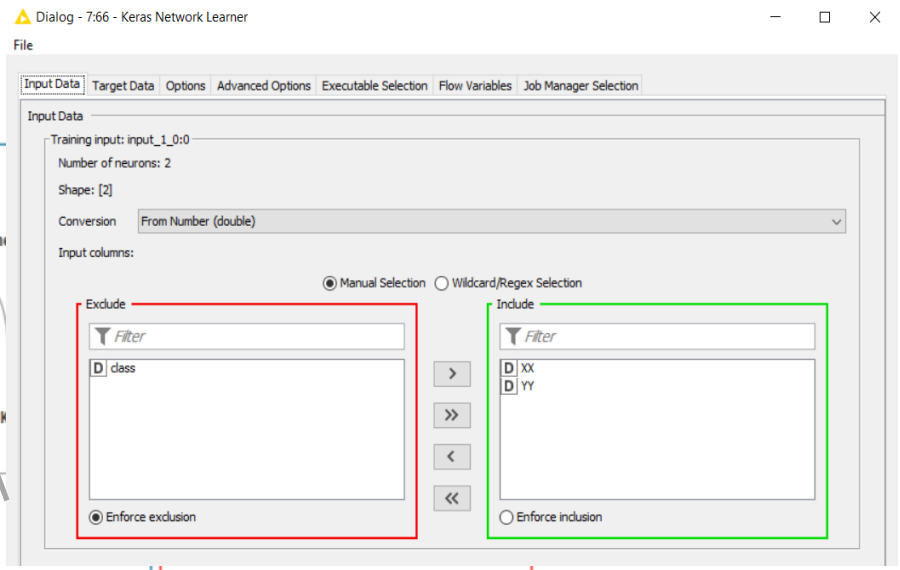

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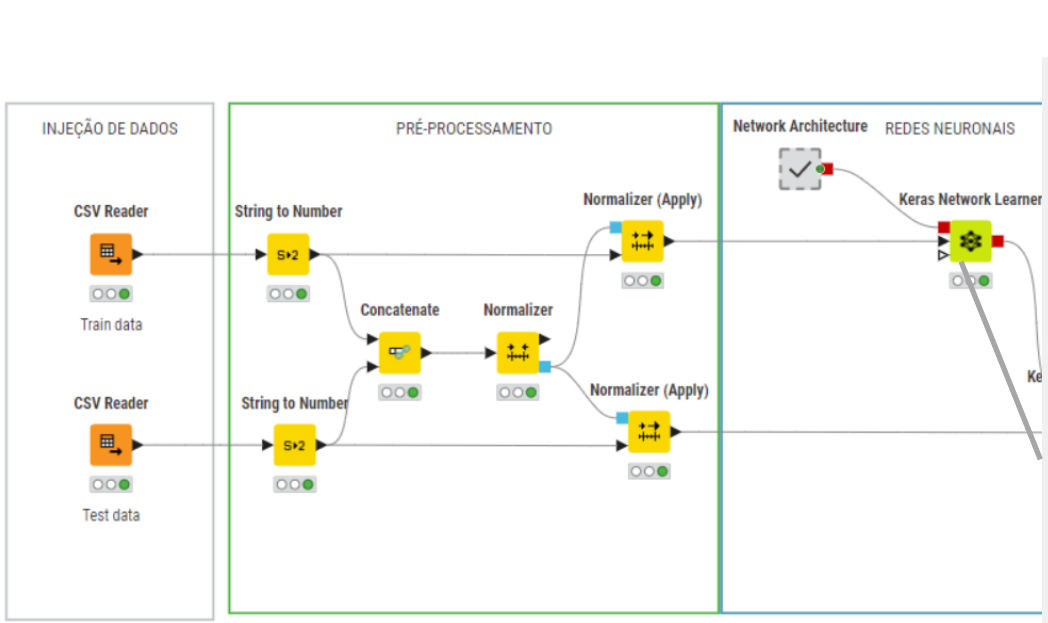

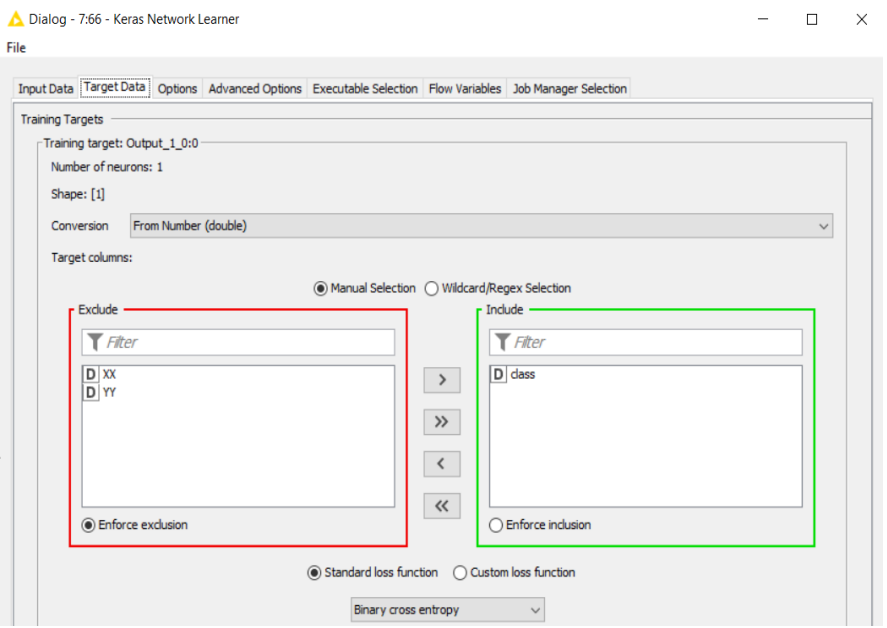

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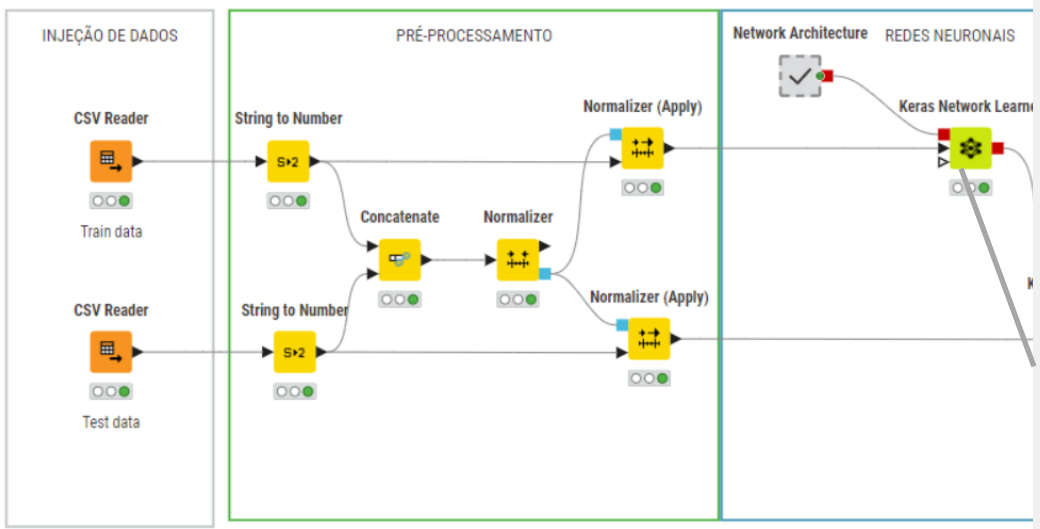

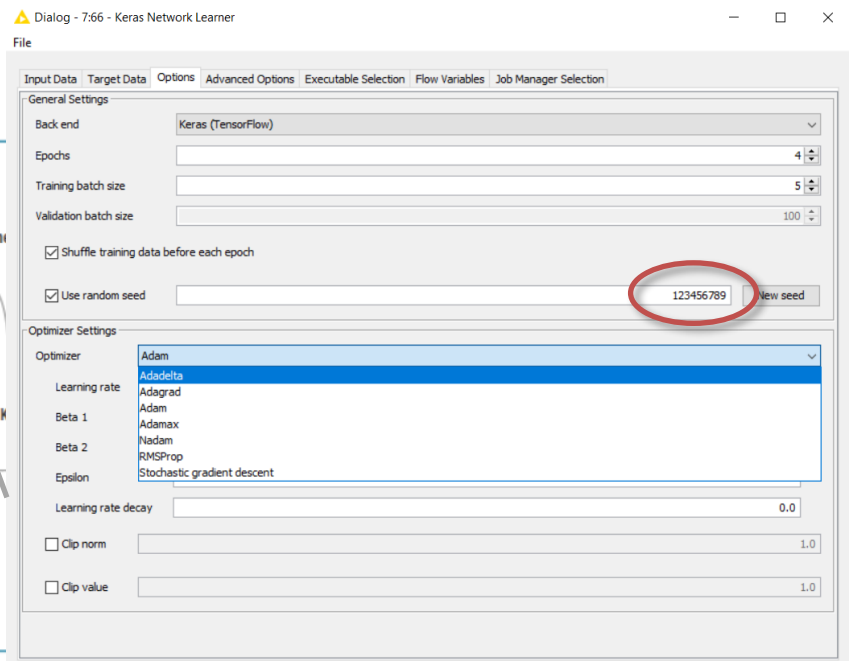

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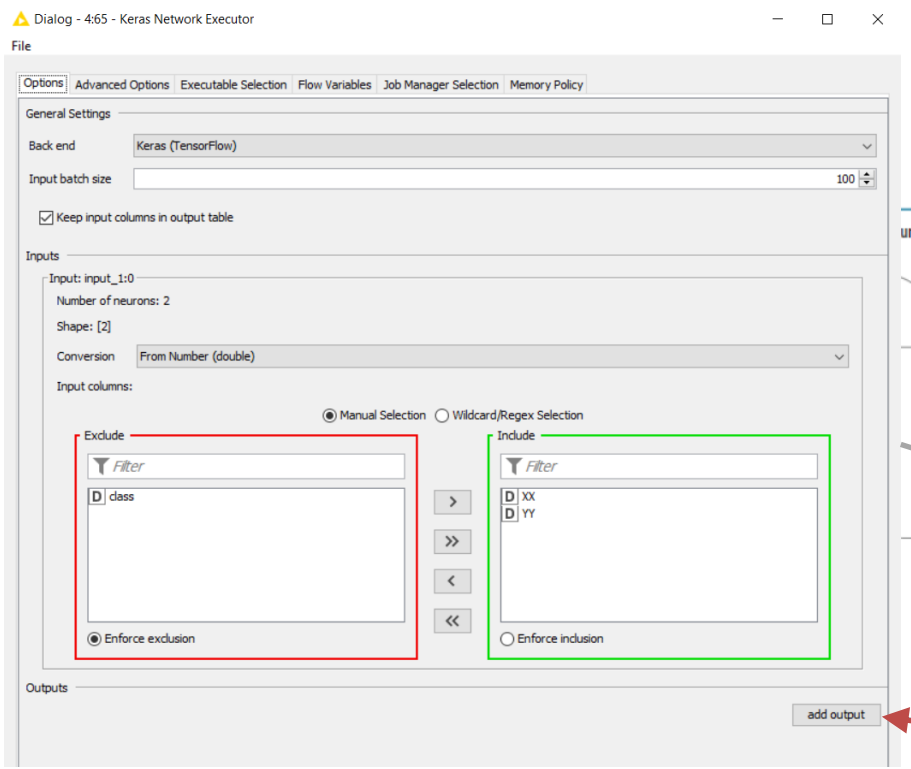

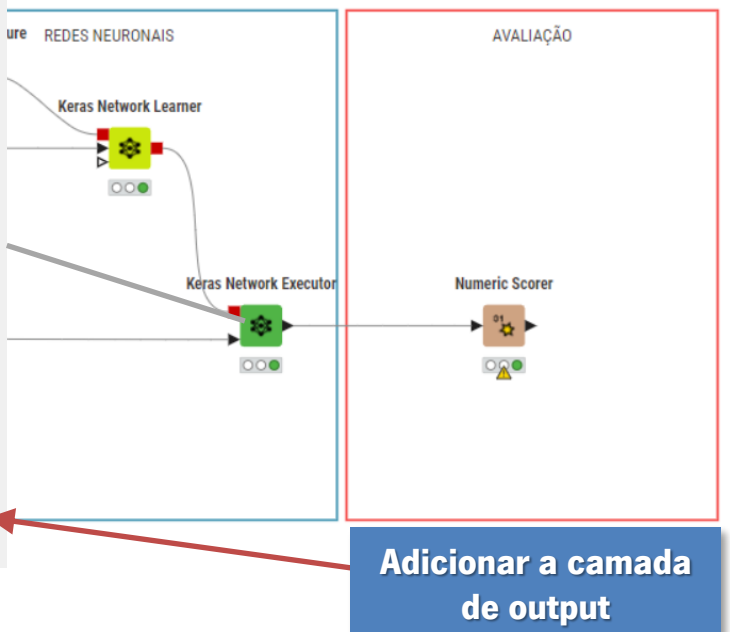

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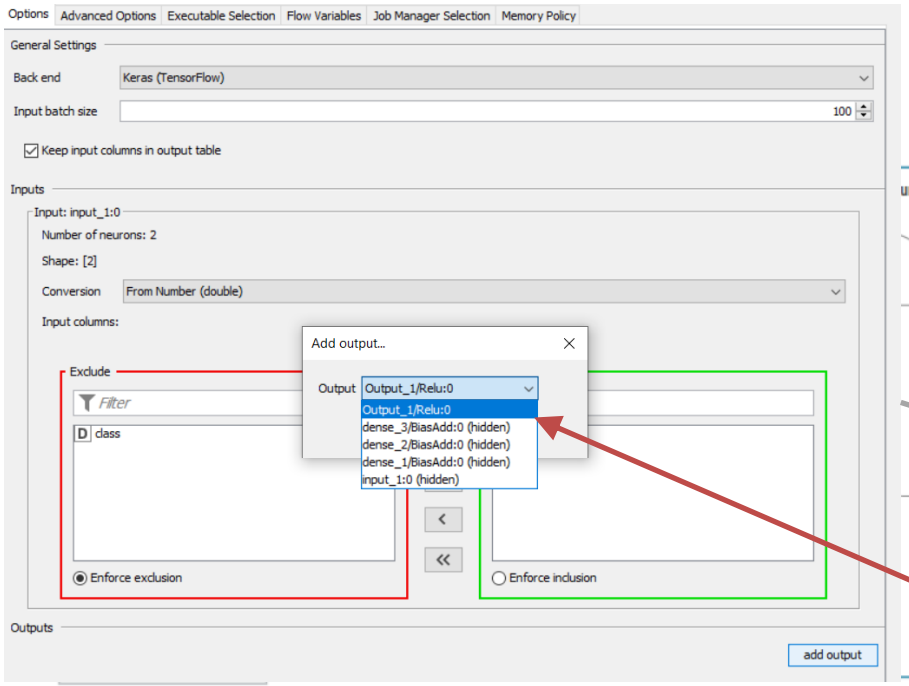

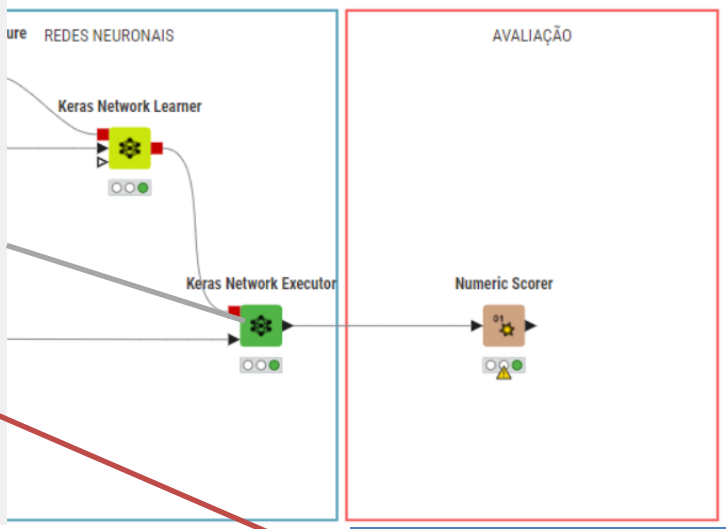

Selecionar a camada de output renomeada anteriormente

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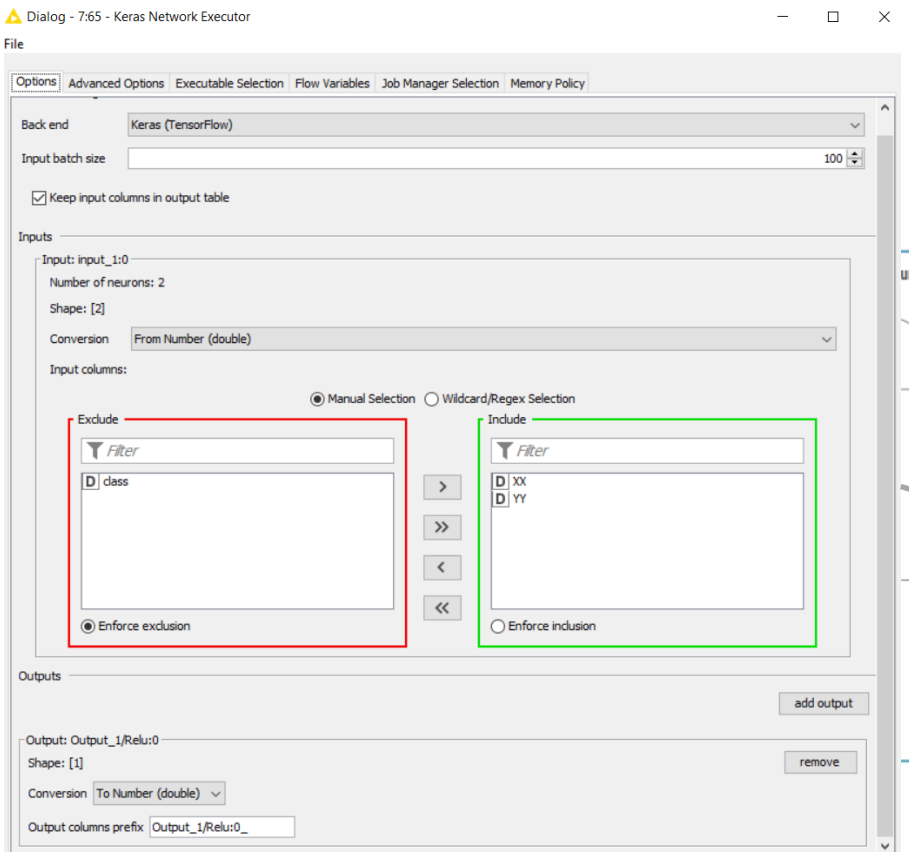

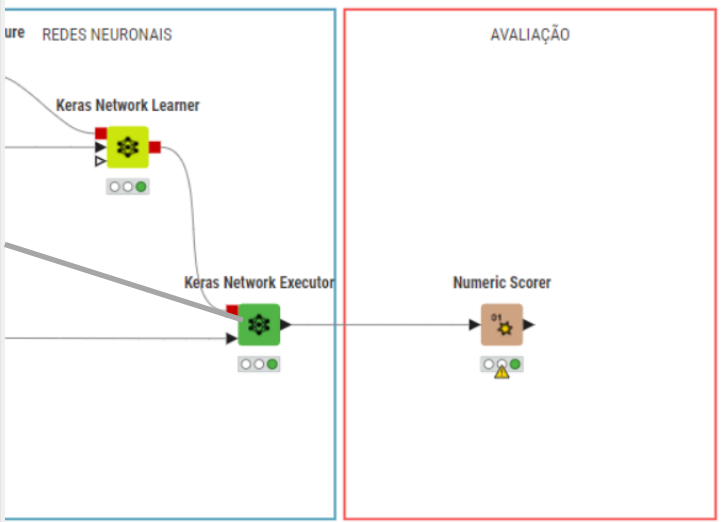

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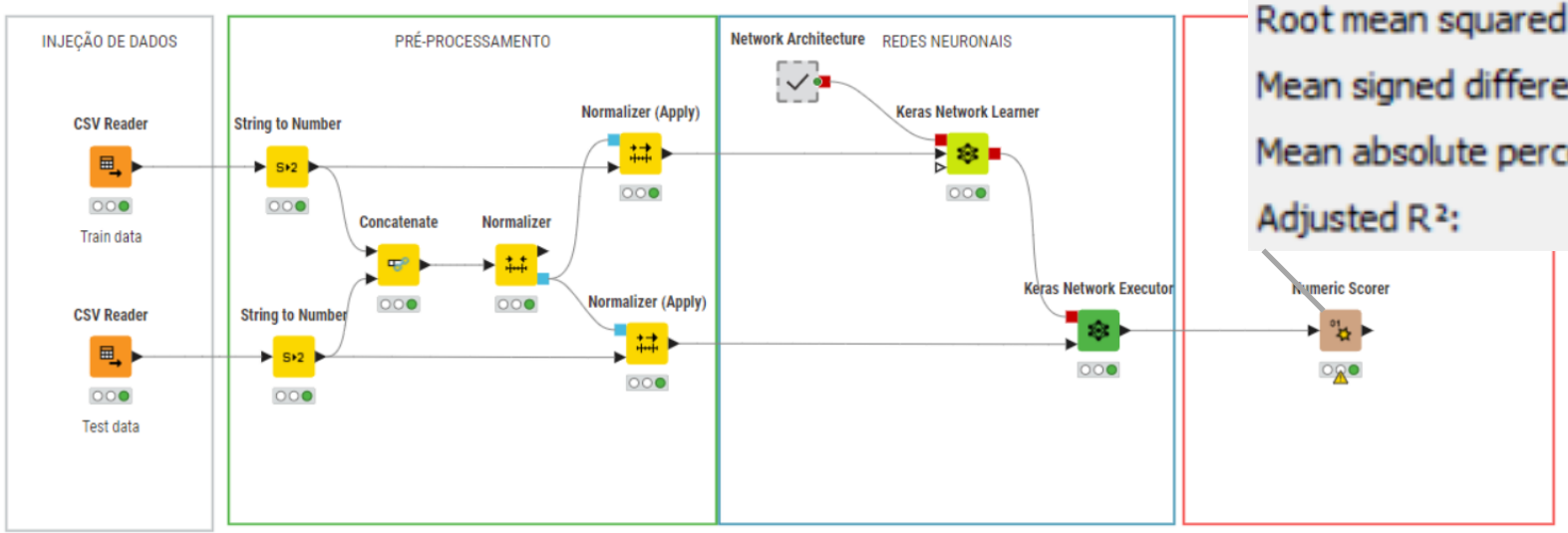
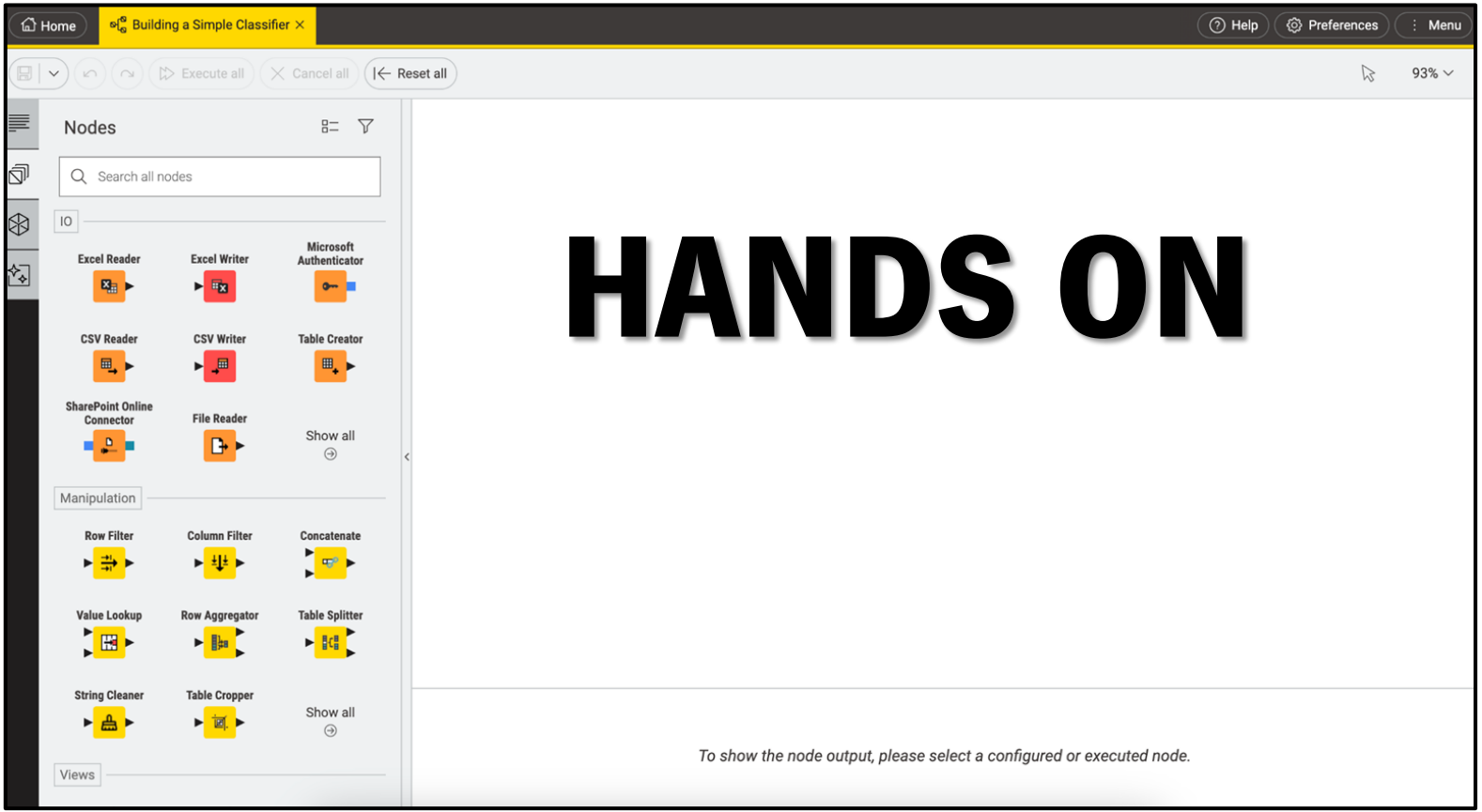


R^2:	0,553
Mean absolute error:	0,229
Mean squared error:	0,112
Root mean squared error:	0,334
Mean signed difference:	0,057
Mean absolute percentage error:	NaN
Adjusted R^2:	0,553


Home
Building a Simple Classifier
Help
Preferences
Menu
Execute all
Cancel all
Reset all
93%
Nodes
Search all nodes
IO
Excel Reader
Excel Writer
Microsoft Authenticator
CSV Reader
CSV Writer
Table Creator
SharePoint Online Connector
File Reader
Show all
Manipulation
Row Filter
Column Filter
Concatenate
Value Lookup
Row Aggregator
Table Splitter
String Cleaner
Table Cropper
Show all
Views
HANDS ON
To show the node output, please select a configured or executed node.