



# Discretisation with decision trees

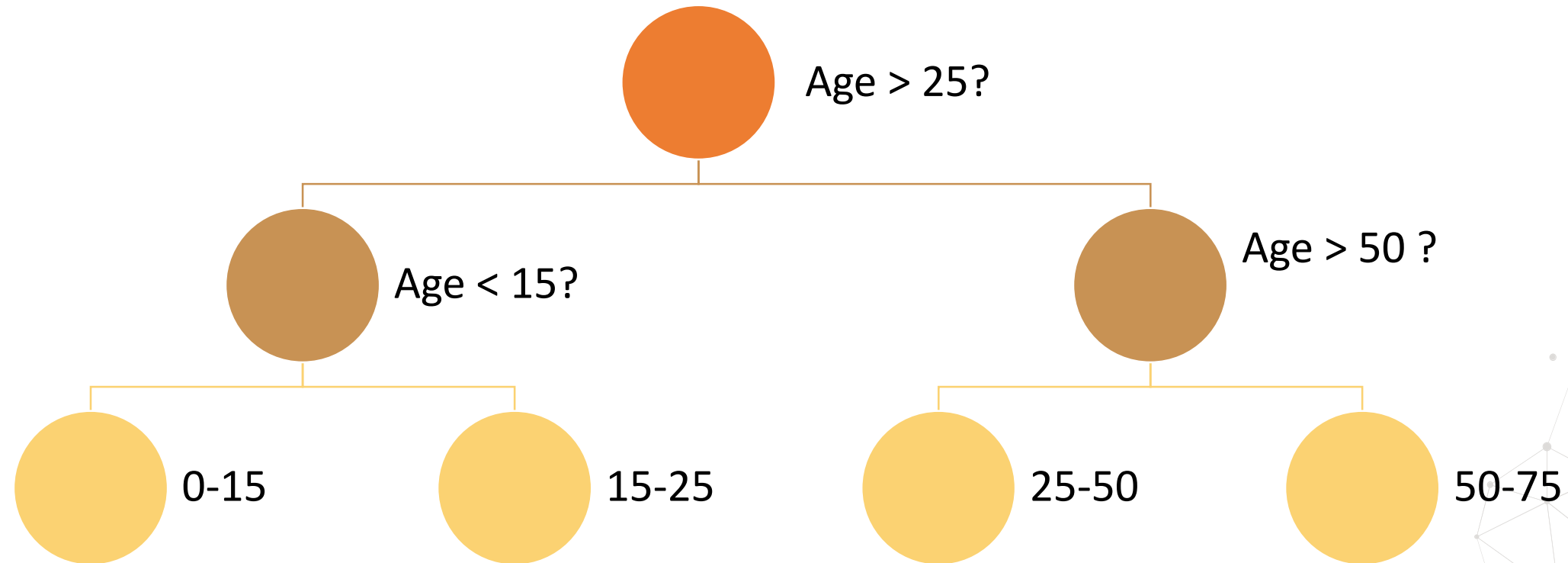
# Discretisation with decision trees

Discretisation with Decision Trees consists in using a decision tree to identify the optimal bins.

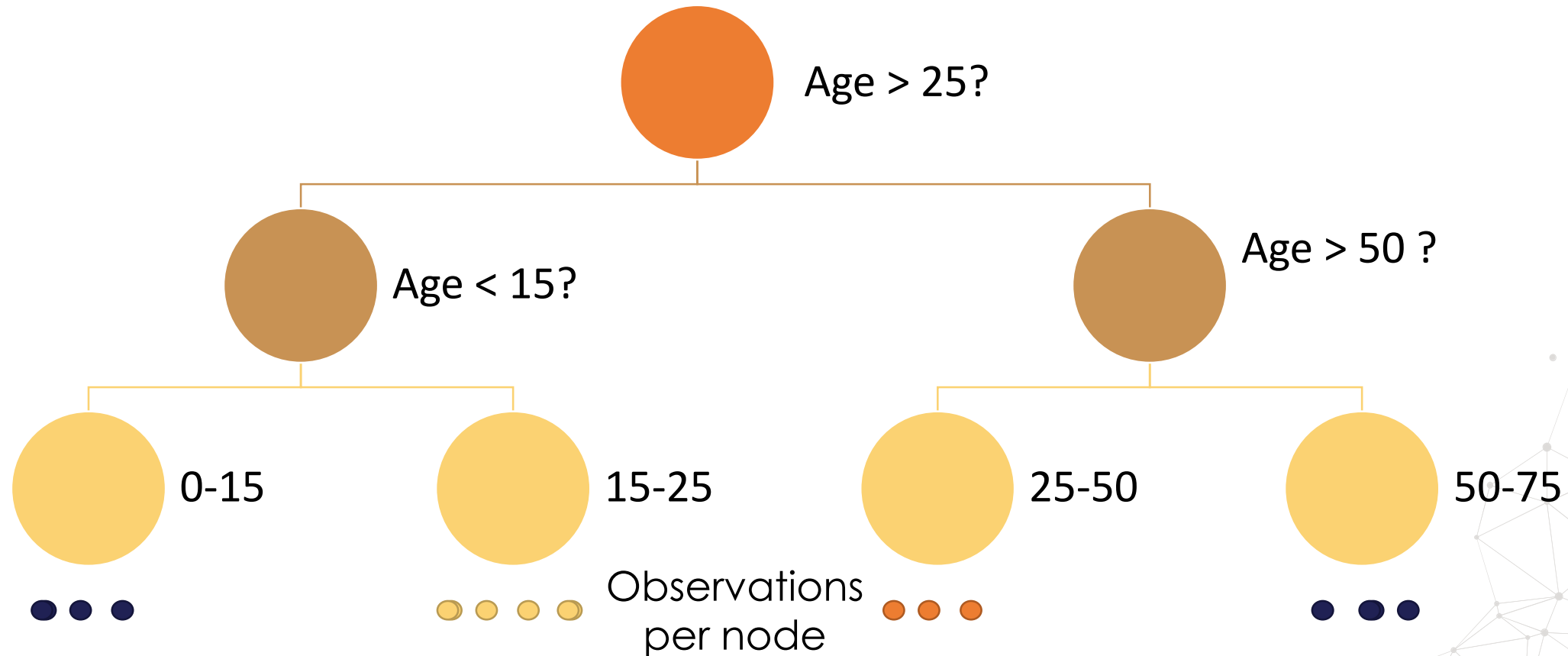
When a decision tree makes a decision, it assigns an observation to one of  $n$  end leaves.

Decision tree creates a discrete output, which values are the predictions at each of its  $n$  leaves.

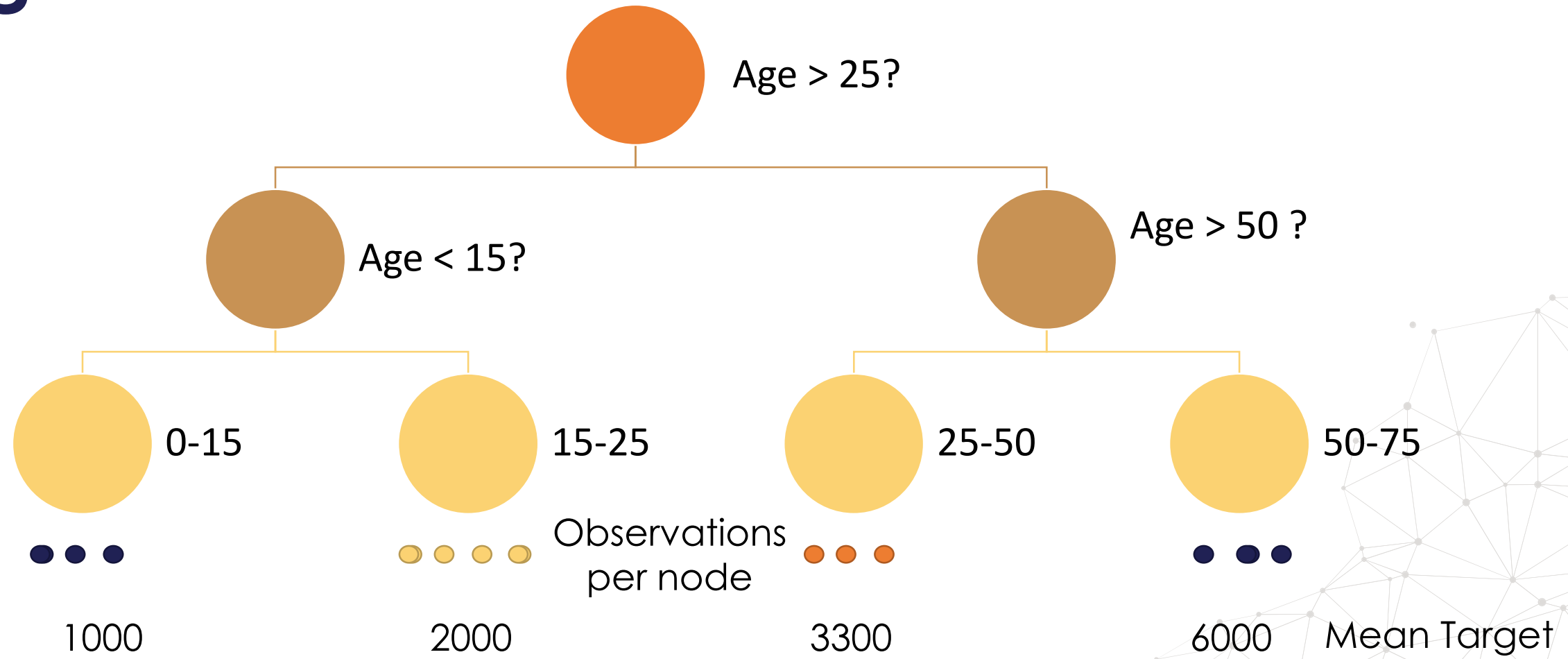
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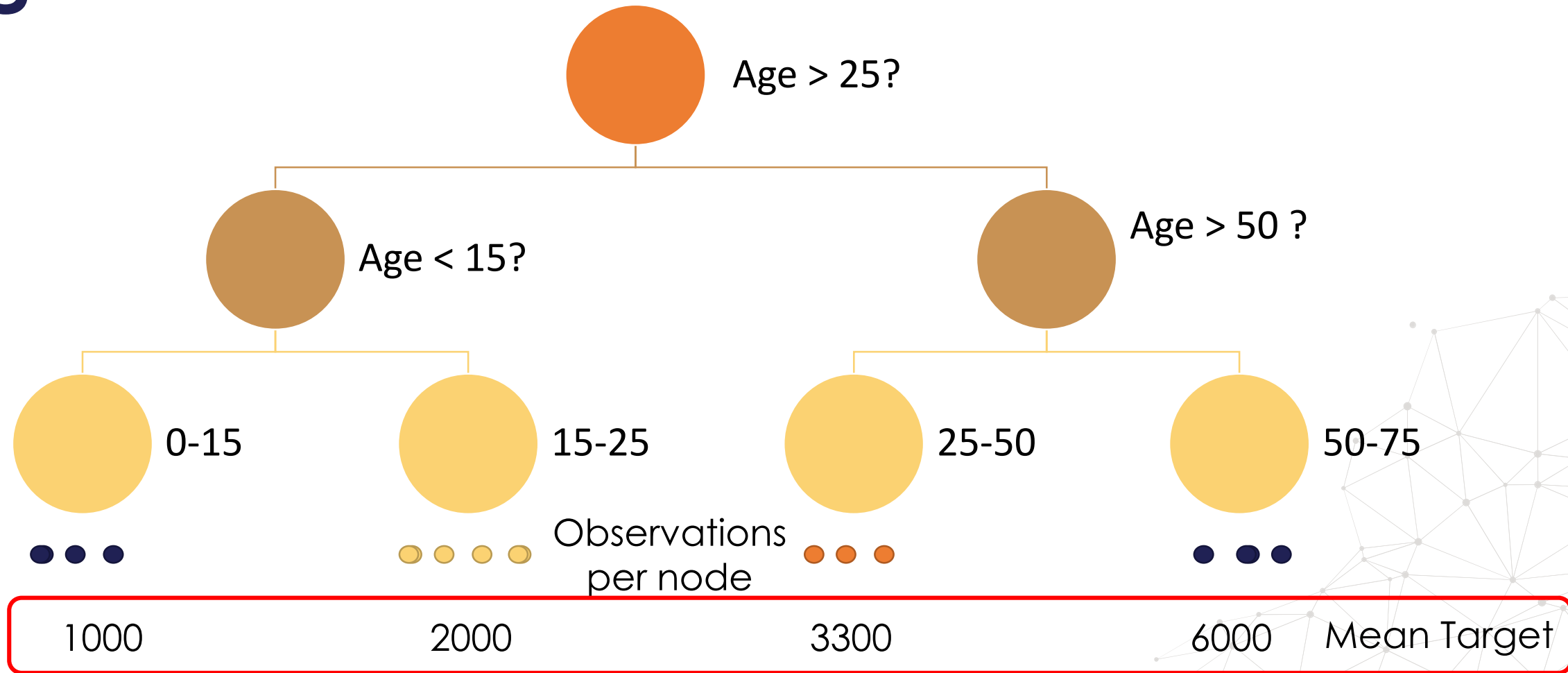
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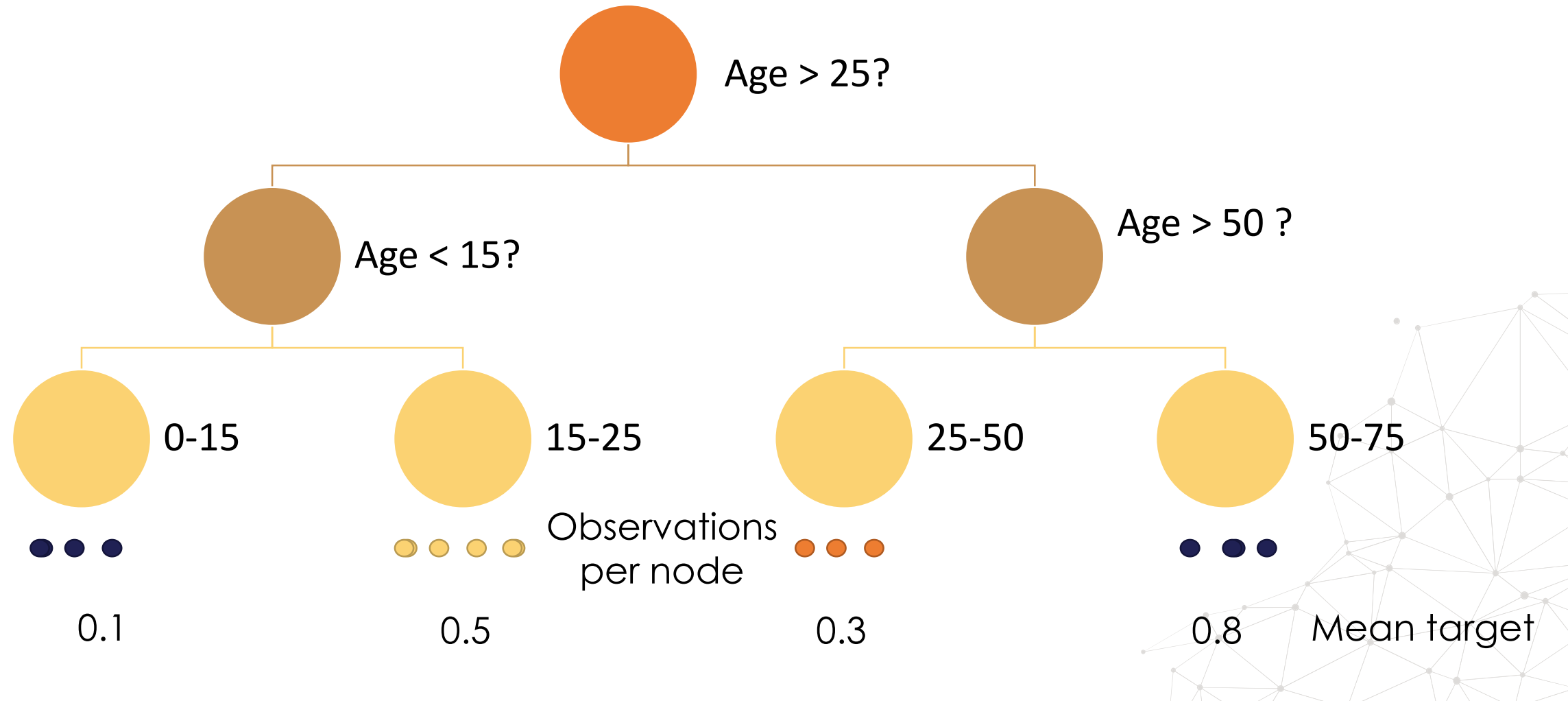
# Discretisation with decision trees: regression



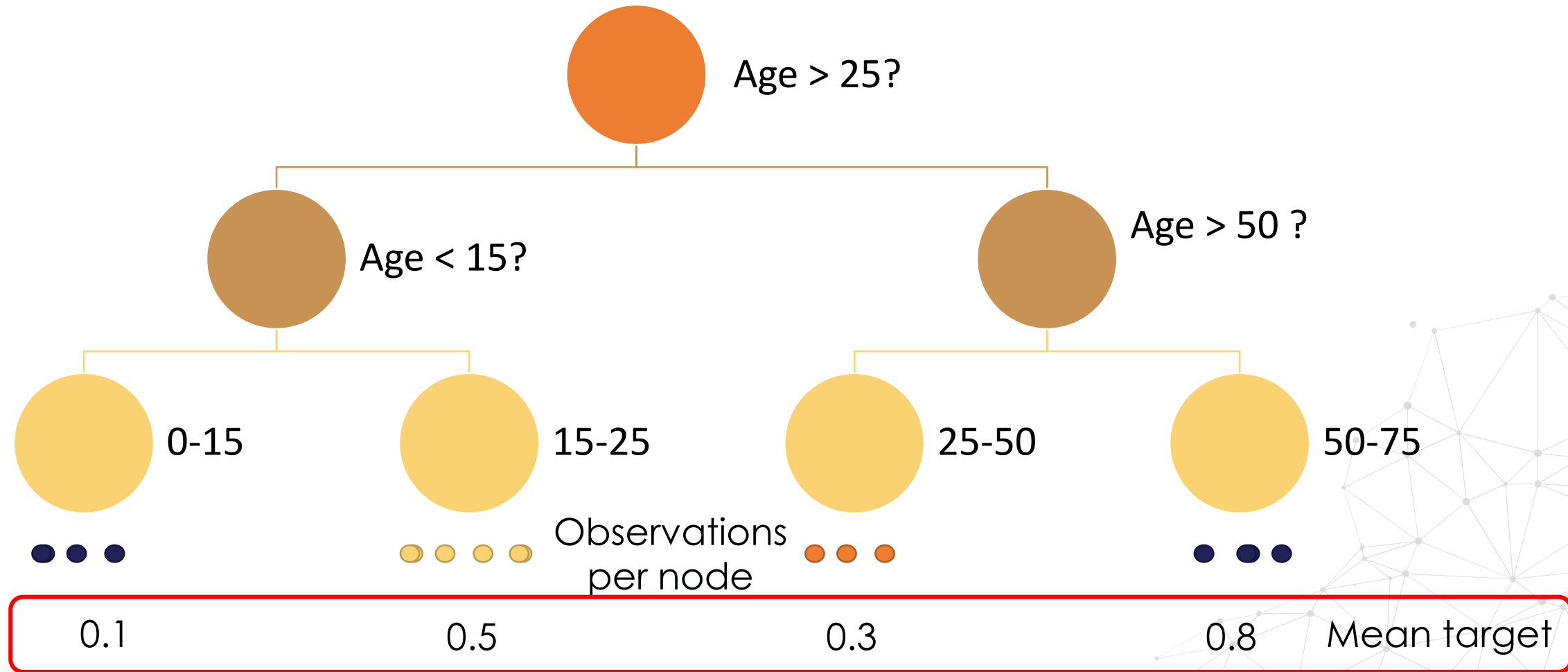
# Discretisation with decision trees: regression



# Discretisation with decision trees: classification

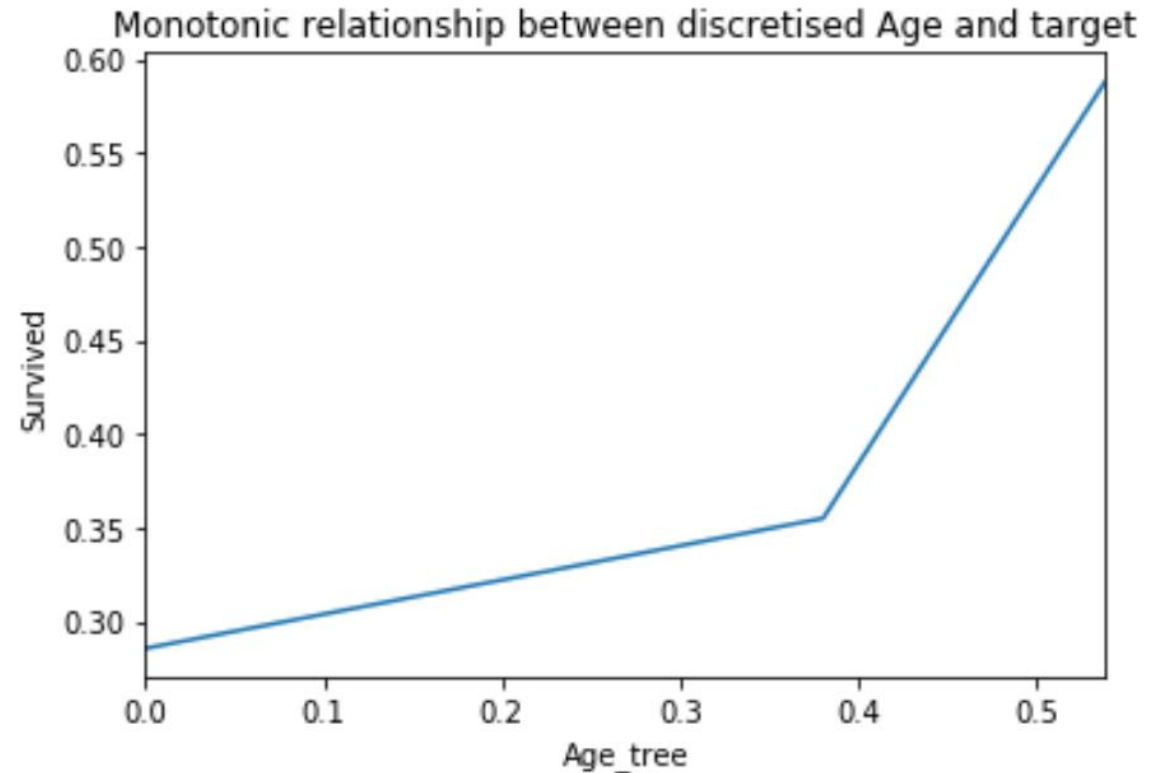
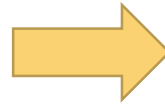
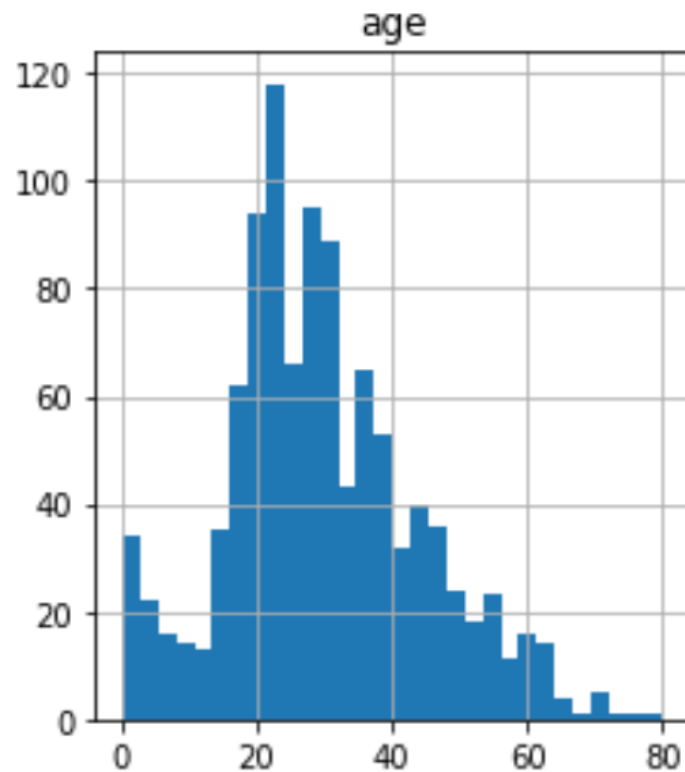


# Discretisation with decision trees: classification





# Discretisation with decision trees



# Discretisation with decision trees: summary

- Does not improve value spread
- Handles outliers, trees are robust to outliers
- Creates discrete variable
- Creates monotonic relationship

# THANK YOU

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