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**Algorithm 1** An algorithm with caption

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rf  $\leftarrow$  RandomForestGeneration ▷ extracting all the forest info
all_rules  $\leftarrow$  []
for tree, t, in rf do
    tree_rules  $\leftarrow$  []
    for path in t do
        tree_rules  $\leftarrow$  tree_rules + path
    end for
    all_rules  $\leftarrow$  all_rules + tree_rules
end for

n  $\leftarrow$  number of features and classes  $\times 2$ 
Map  $\leftarrow$   $0_{n \times n}$ ,
for rule in all_rules do
    if feature i and feature j in rule then
        Mapij  $\leftarrow$  Mapij + 1
        Mapji  $\leftarrow$  Mapji + 1
    end if
end for
▷ The relational matrix is made now

rule_vecs  $\leftarrow$  {Extract Principle Components/Communities as vecs}
final_rules  $\leftarrow$  {}
for rule do in rule_vecs
    final_rules  $\leftarrow$  final_rules + rule_creation(rule)
end for
return final_rules
```

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