PennyLane v0.43 is out!

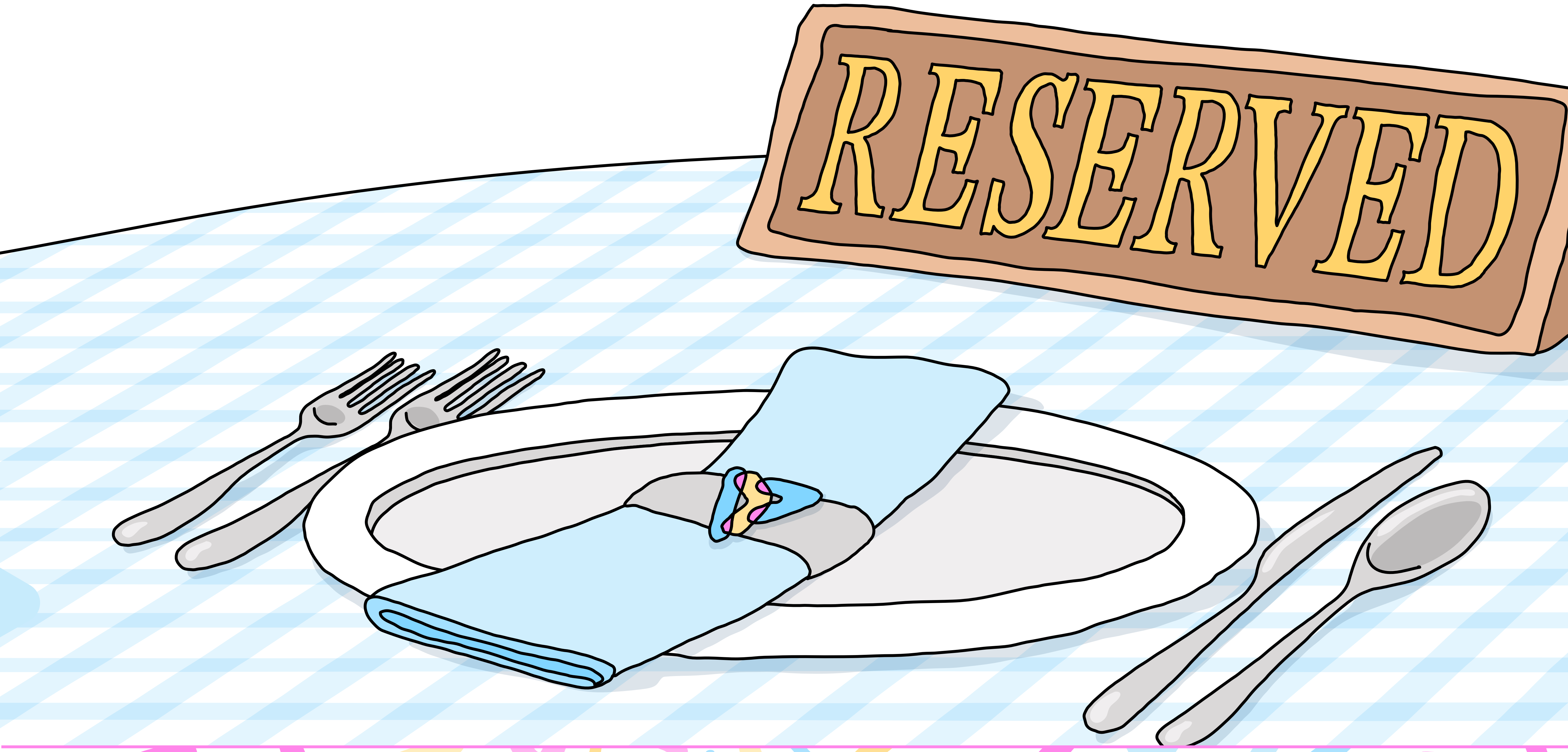
FEATURING:

- Dynamic wire allocation
- Resource estimation
- QJIT’d circuit specs
- QJIT’able quantum optimizers
- Optimized compute-uncompute patterns & more!

PENNYLANE.ai

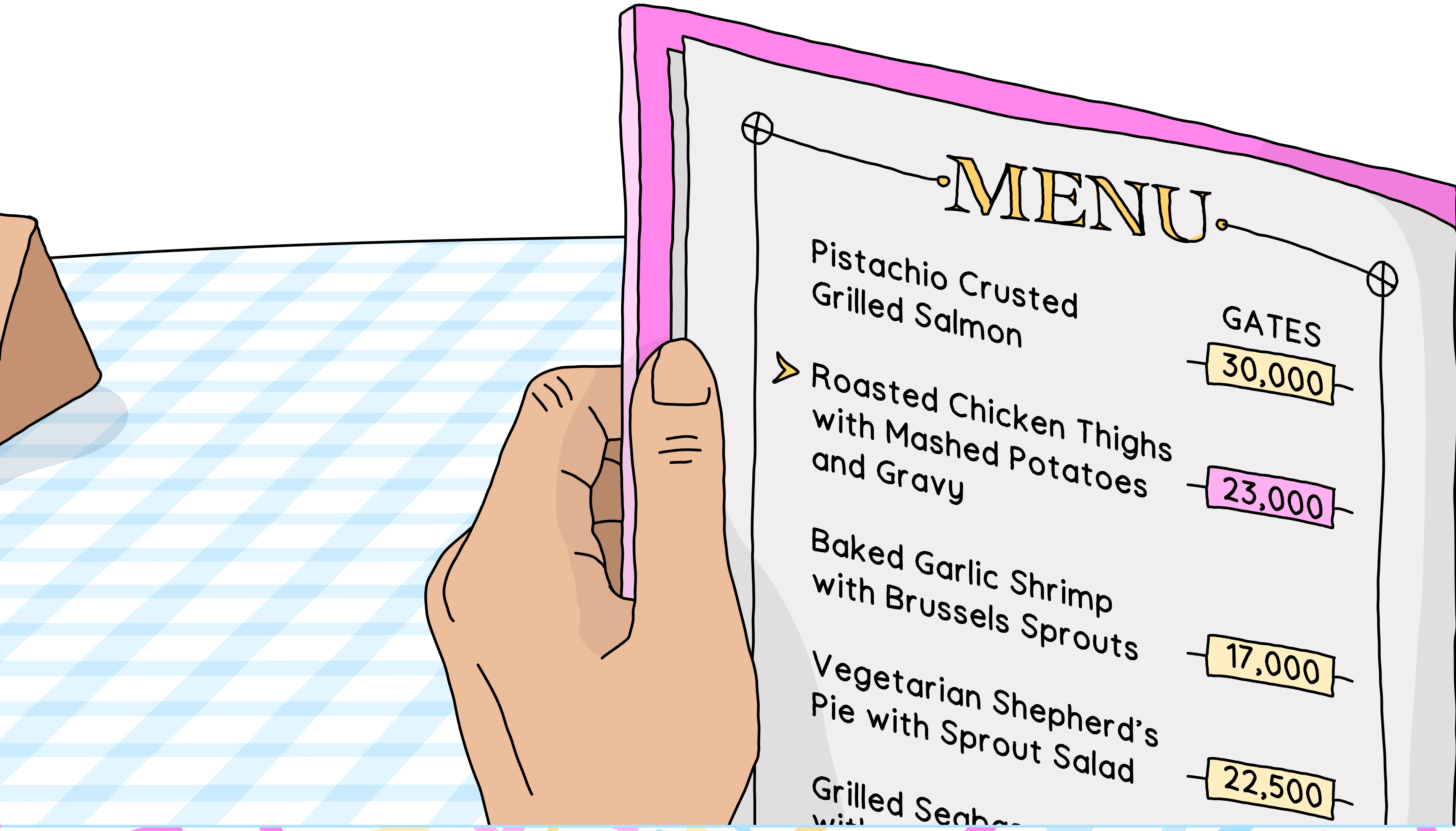
DYNAMIC WIRE ALLOCATION

Allocate wires on-the-fly with **qml.allocate**, unlocking **decompositions with better resource usage**, complex dynamic subroutines, and more.
Works with QJIT!



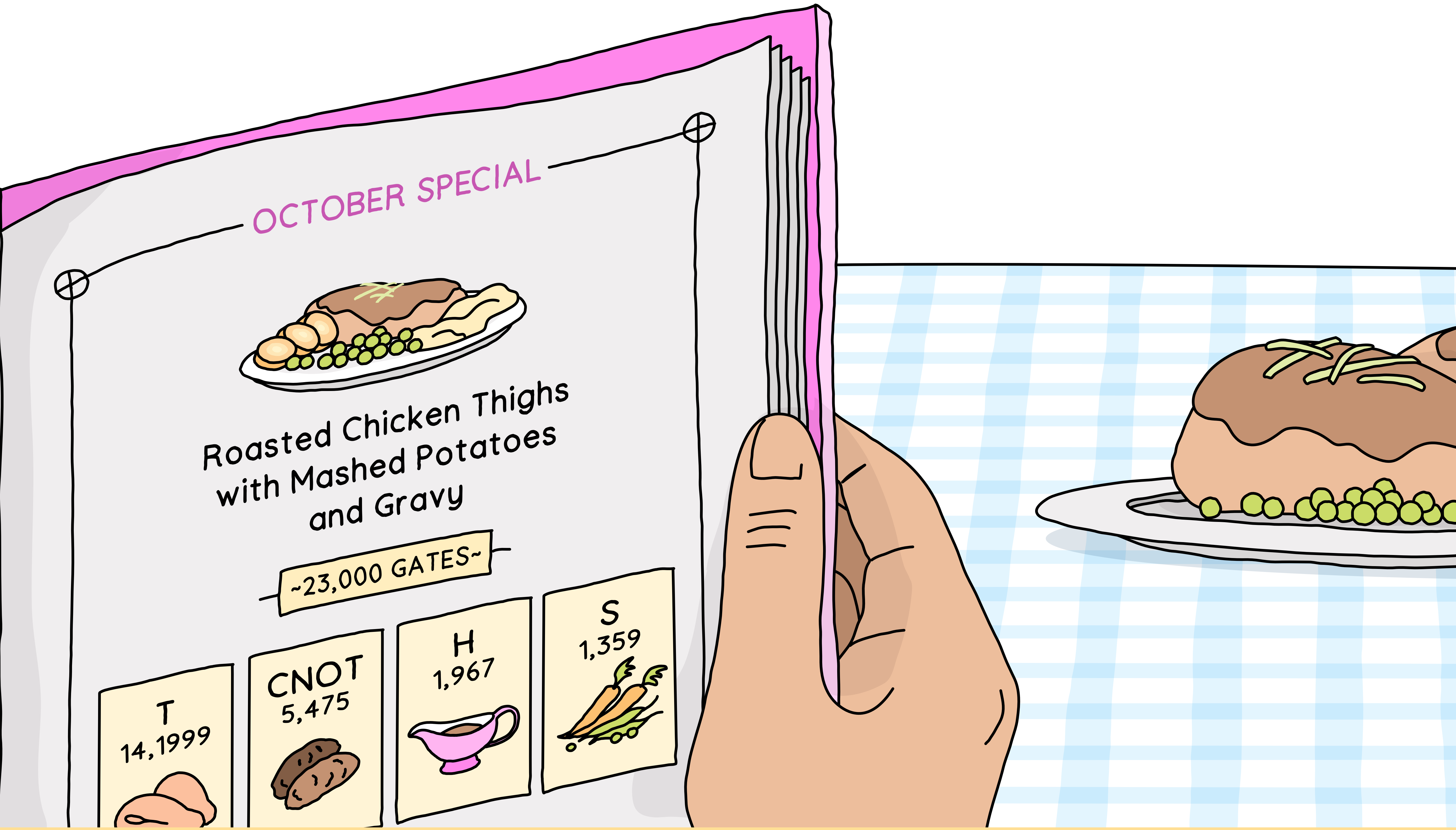
RESOURCE ESTIMATION

Quickly estimate circuit resources with the new **qml.estimator module**, which provides **high-level estimates without needing low-level circuit details**.


MENU
GATES
Pistachio Crusted Grilled Salmon
30,000
Roasted Chicken Thighs with Mashed Potatoes and Gravy
23,000
Baked Garlic Shrimp with Brussels Sprouts
17,000
Vegetarian Shepherd's Pie with Sprout Salad
22,500
Grilled Seaba

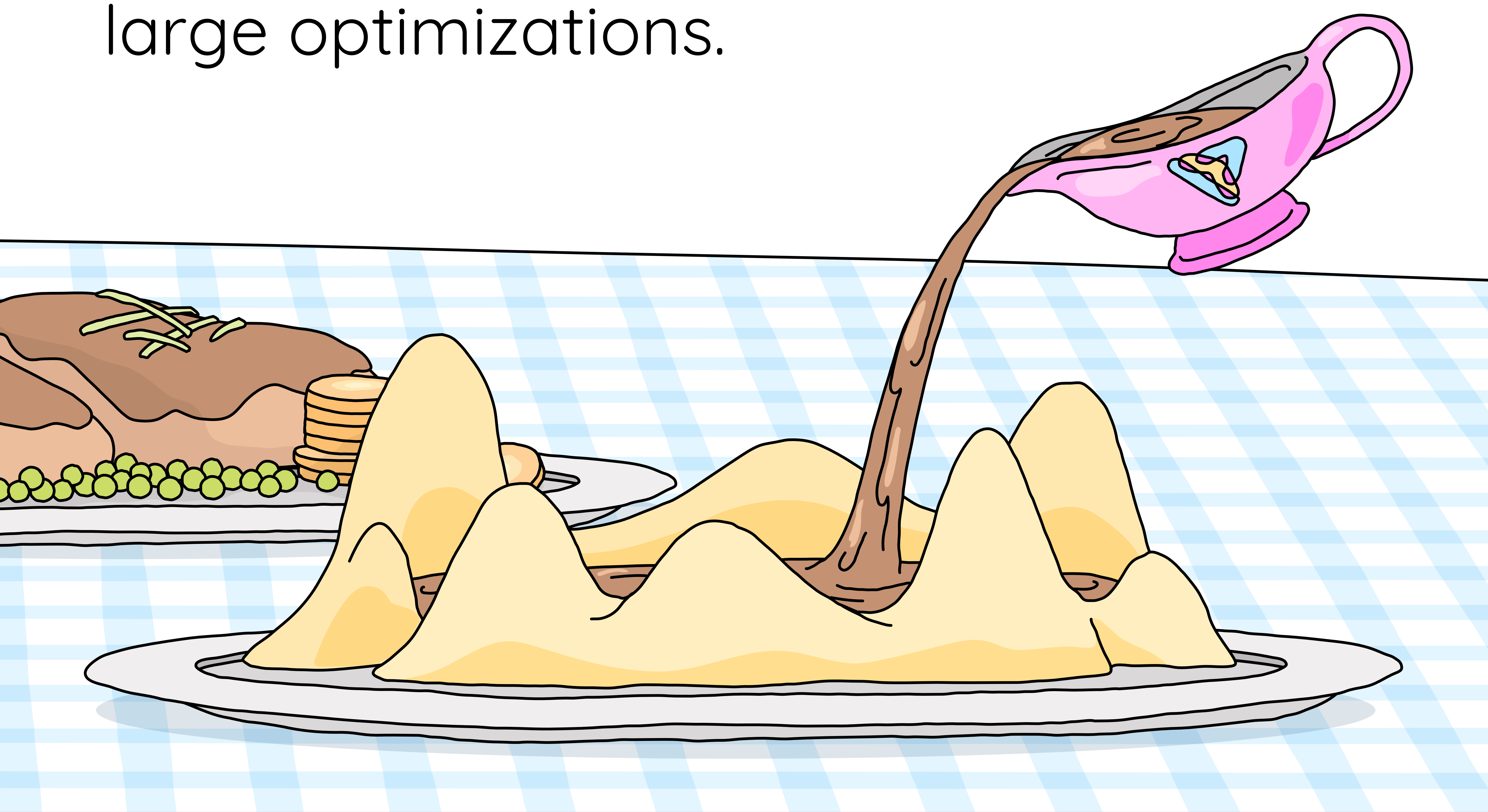
QJIT’D CIRCUIT SPECS

Exact circuit resources can now be obtained from workflows **compiled with QJIT** using **qml.specs** and level=“device”.



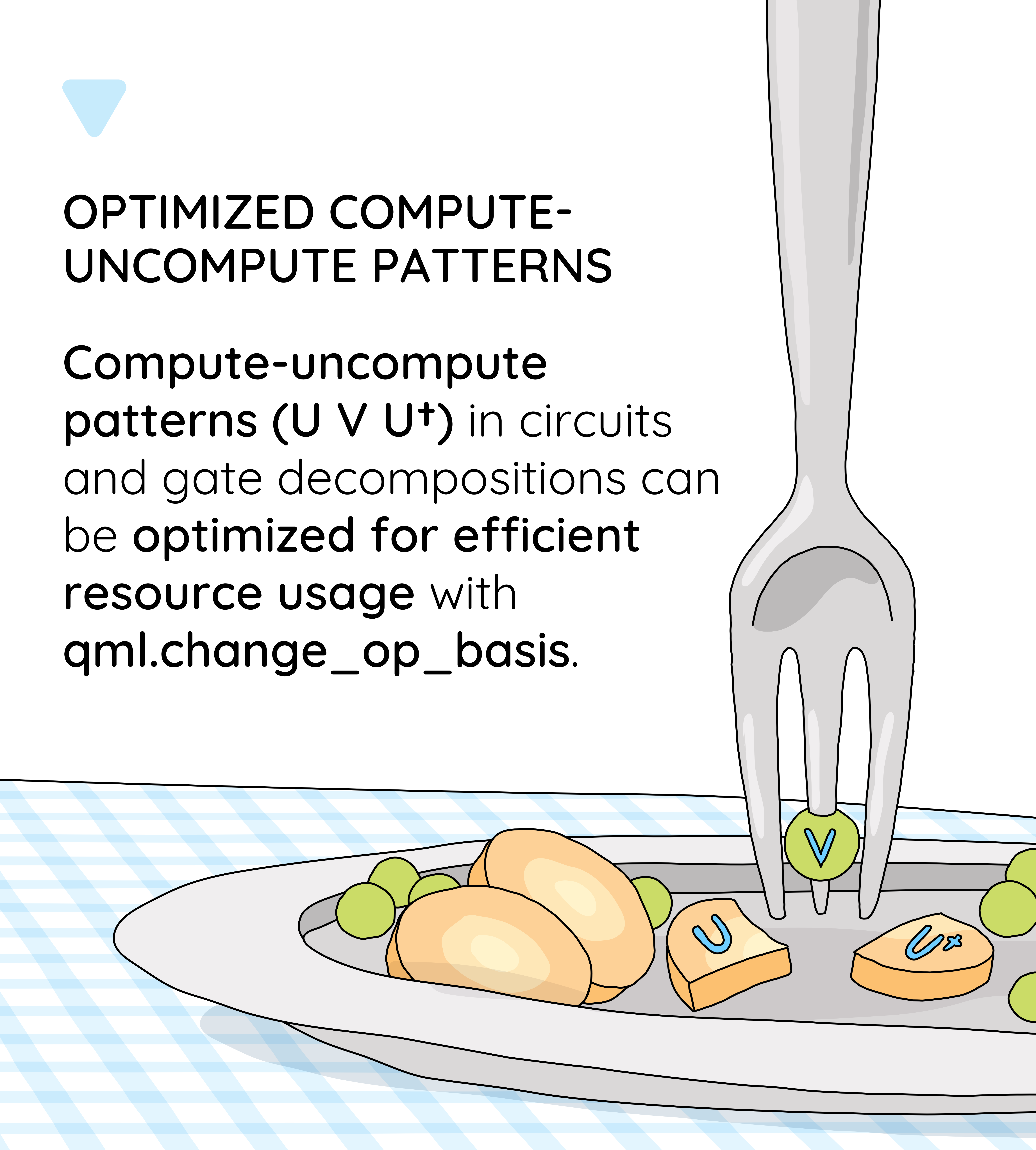
QJIT’ABLE QUANTUM OPTIMIZERS

Optimize hybrid workflows **compiled with QJIT** using the new **qml.MomentumQNGOptimizerQJIT** optimizer, which unlocks **substantial performance increases** in large optimizations.



OPTIMIZED COMPUTE-UNCOMPUTE PATTERNS

Compute-uncompute patterns (U V $U^{\dagger}$) in circuits and gate decompositions can be **optimized for efficient resource usage** with **qml.change_op_basis**.



**Once again,
thanks to all our users,
contributors, and fans
for all of your support!**

PennyLane

is completely open-source.
If you like what we're doing
tell your friends,
join one of our events,
and help spread the word!

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