Natural evolutionary strategies (NES) are a family of gradient-free black-box optimization algorithms.

the optimization of randomly-initialized parameterized quantum circuits (PQCs)

variational quantum eigensolver (VQE) and state preparation with circuits of varying depth and length.

Variational quantum algorithms are currently the most promising class of algorithms for deployment on near-term quantum computers. In contrast to classical algorithms, there are almost no standardized methods in quantum algorithmic development yet, and the field continues to evolve rapidly.