

A QCNN for Quantum State Preparation

Carnegie Vacation Scholarship

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Week 5
(29/07/2024 - 02/08/2024)

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① Preliminaries

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Aims for the Week

The following aims were set at the last meeting (29/07/2024):

Improve Loss Function

Work on an improved version of WILL. Incorporate some phase extraction metrics (e.g. χ , ϵ) into the loss function.

Investigate Phase Extraction

Study the relationship between mismatch and the extracted phase, i.e. study the operator $\tilde{Q}^\dagger(\hat{I} \otimes \hat{R})\tilde{Q}$.

Mitigate Barren Plateaus

Work on strategies to mitigate barren plateaus, e.g. implement layer-by-layer training.

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