

Convergence Analysis Report

August 2, 2025

	Optimizer	Mean Function Evaluation
	QQN-GoldenSection	
Convergence Speed Analysis	L-BFGS	
	L-BFGS-Aggressive	
	QQN-Bisection-1	
	QQN-Bisection-2	
	QQN-StrongWolfe	
	QQN-CubicQuadraticInterpolation	
	L-BFGS-MoreThuente	
	L-BFGS-Limited	
	GD-AdaptiveMomentum	
	GD-Momentum	
	L-BFGS-Conservative	
	Adam-Fast	
	GD-Nesterov	
	Adam-Robust	
	Trust Region-Aggressive	
	GD-WeightDecay	
	GD	
	Trust Region-Standard	
	Trust Region-Precise	
	Trust Region-Adaptive	
	Trust Region-Conservative	
	Adam-AMSGrad	
	Adam-WeightDecay	
	Adam	

Purpose: Compares convergence rates for different optimizers based on total function

evaluations (function + gradient evaluations). Sorted by fastest overall convergence (weighted average). Best performer is highlighted in bold, QQN variants in green.