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	abstract	A supervised learning approach for the solution of large-scale nonlinear stabilization problems is presented. A stabilizing feedback law is trained from a dataset generated from State-dependent Riccati Equation solvers. The training phase is enriched by the use of gradient information in the loss function, which is weighted through the use of hyperparameters. High-dimensional nonlinear stabilization tests demonstrate that real-time sequential large-scale Algebraic Riccati Equation solvers can be substituted by a suitably trained feedforward neural network.	**abstract**	A supervised learning approach for the solution of large-scale nonlinear stabilization problems is presented. A stabilizing feedback law is trained from a dataset generated from State-dependent Riccati Equation solves. The training phase is enriched by the use gradient information in the loss function, which is weighted through the use of hyperparameters. High-dimensional nonlinear stabilization tests demonstrate that real-time sequential large-scale Algebraic Riccati Equation solves can be substituted by a suitably trained feedforward neural network.		
	versions		**versions**			