

cases	doc_1		doc_2		decision	id
	authors	<ul style="list-style-type: none">Yulia RubanovaRicky T. Q. ChenDavid Duvenaud	authors	<ul style="list-style-type: none">Yulia RubanovaRicky T. Q. ChenD. Duvenaud	DUPLICATES	80
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	abstract	Time series with non-uniform intervals occur in many applications, and are difficult to model using standard recurrent neural networks (RNNs). We generalize RNNs to have continuous-time hidden dynamics defined by ordinary differential equations (ODEs), a model we call ODE-RNNs. Furthermore, we use ODE-RNNs to replace the recognition network of the recently-proposed Latent ODE model. Both ODE-RNNs and Latent ODEs can naturally handle arbitrary time gaps between observations, and can explicitly model the probability of observation times using Poisson processes. We show experimentally that these ODE-based models outperform their RNN-based counterparts on irregularly-sampled data.	abstract	Time series with non-uniform intervals occur in many applications, and are difficult to model using standard recurrent neural networks (RNNs). We generalize RNNs to have continuous-time hidden dynamics defined by ordinary differential equations (ODEs), a model we call ODE-RNNs. Furthermore, we use ODE-RNNs to replace the recognition network of the recently-proposed Latent ODE model. Both ODE-RNNs and Latent ODEs can naturally handle arbitrary time gaps between observations, and can explicitly model the probability of observation times using Poisson processes. We show experimentally that these ODE-based models outperform their RNN-based counterparts on irregularly-sampled data.		
	versions		versions			