

## FMfI2023 Poster Session

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Affiliation	Mathematical Institute, School of Science, Tohoku University, Japan
Poster title	<b>Neural Networks Containing Stochastic Perturbations in Parameters</b>
Abstract	<p>Neural networks is a mathematical model, which is including many parameters. We consider neural networks whose parameters contain stochastic perturbations. From mathematical perspective, we derive the approximation ability of noise-injected neural networks, quantitatively. From numerical perspective, we introduce the result of numerical experiments, adding partial perturbations to parameters of the neural network.</p>
Short Bio	<p>I'm Keito AKIYAMA, from Mathematical Institute, Tohoku University. I'm studying neural networks using analysis. I'm interested in the effects of stochastic perturbations(noises) on neural networks. I've investergated mathematical analysis of the effect of noise on function approximation ability and numerical experiments on the localization of noise in neural networks. Recently, I've been working on mathematical analysis of mean field neural networks.</p>