Title: Continuous solutions of a second order iterative equation

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In this paper, we study the existence of continuous solutions and their constructions for a second order iterative functional equation which involves iterates of the unknown function and a nonlinear term. Imposing Lipschitz conditions to those given functions, we prove the existence of Lipschitzian solutions on the whole $\mathbb{R}$ by applying the Banach Contraction Principle. In the case without Lipschitz conditions, we hardly use the Banach Contraction Principle, but we construct continuous solutions on $\mathbb{R}$ recursively with a partition of $\mathbb{R}$.

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