



## **MEDICAL IMAGE RESTORATION USING FILTER-GUIDED PDES RESOLUTION SCHEME**

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### **Abstract**

In this paper, we propose a restoration algorithm for medical grey-level images based on a modified PDEs resolution scheme. The classical restoration process aims to eliminate noise from the image. The noise of the image is not evident, and is very hard to estimate. Assumption on this noise gave several techniques and methods to restore images ranging from simple filters to Partial Differential Equations. PDEs are the well known powerful tools to restore images, however there are not magical tools that can do anything. In this paper, we propose to guide the resolution scheme of a PDE, in order to modify the obtained solution in such way that we get the desired image. This guidance is done by interleaving filters between intermediate calculus steps. The obtained results are encouraging and promising.

**Keywords and phrases:** image restoration, Perona and Malik PDE, partial differential equations.

