

Spongebob Squarepants

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Introduction

We proposed method introduces new physiological quantities aimed at increasing the CVR-BOLD regression strength. In fact, our sample size of 1 pushes us to conclude that we deserve yall's money. Please fund us :(

Theory

Fourier Transform

Logistic Growth and Decay

Under the basis that blood oxygenation is upper and lower limited, we believe that a O_2 follows a piecewise Logistic Growth and Decay model. That is, we can model saturation with:

$$f(t) = \begin{cases} \frac{M_1}{1+e^{-\alpha_1(t-\phi_1)}} + \psi_1 & t \leq \tau \\ \frac{M_2}{1+e^{-\alpha_2(t-\phi_2)}} + \psi_2 & t \geq \tau \end{cases}$$

Gradient Descent

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General Linear Model (FSL)

Methods and Algorithms

Conclusion