Physics-Informed Neural Networks for solving Blood Flows

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***Abstract*—The Physics-informed Neural Networks Deep Learning (PINN) framework has been introduced with the primary objective of advancing the field of blood flow simulations. PINN Deep Learning involves data-driven training for flow prediction and can incorporate the understanding of physical laws described by partial differential equations (PDEs). This paper employs the PINN Method for simulating blood flows. Multiple test cases will be computed and compared with other numerical and experimental results to validate the approach. The results demonstrate that the PINN method functions as expected, and validation against experimental and other researchers' results ensures the generation of meaningful output data and the prudent selection of parameters.**

***Keyword*—Physics-informed Neural Networks, Deep Learning, Cardiovascular System, 1D Blood Model.**

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