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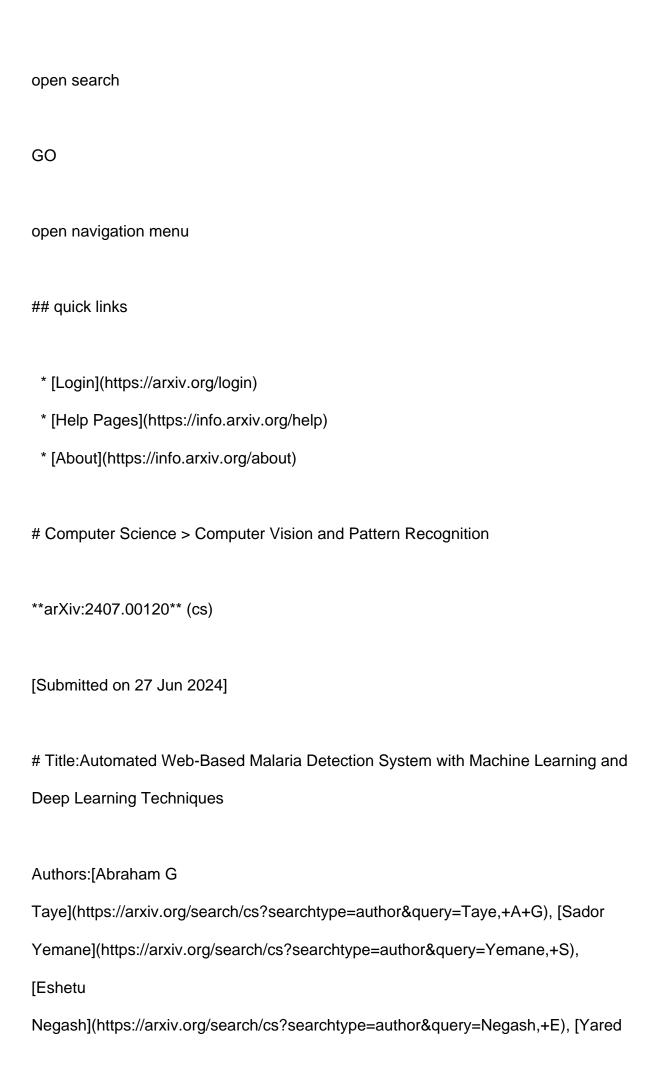
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View a PDF of the paper titled Automated Web-Based Malaria Detection System with Machine Learning and Deep Learning Techniques, by Abraham G Taye and 5 other authors

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- > Abstract: Malaria parasites pose a significant global health burden, causing
- > widespread suffering and mortality. Detecting malaria infection accurately
- > is crucial for effective treatment and control. However, existing automated
- > detection techniques have shown limitations in terms of accuracy and
- > generalizability. Many studies have focused on specific features without
- > exploring more comprehensive approaches. In our case, we formulate a deep
- > learning technique for malaria-infected cell classification using
- > traditional CNNs and transfer learning models notably VGG19, InceptionV3,
- > and Xception. The models were trained using NIH datasets and tested using
- > different performance metrics such as accuracy, precision, recall, and
- > F1-score. The test results showed that deep CNNs achieved the highest
- > accuracy -- 97%, followed by Xception with an accuracy of 95%. A machine
- > learning model SVM achieved an accuracy of 83%, while an Inception-V3
- > achieved an accuracy of 94%. Furthermore, the system can be accessed through
- > a web interface, where users can upload blood smear images for malaria
- > detection.

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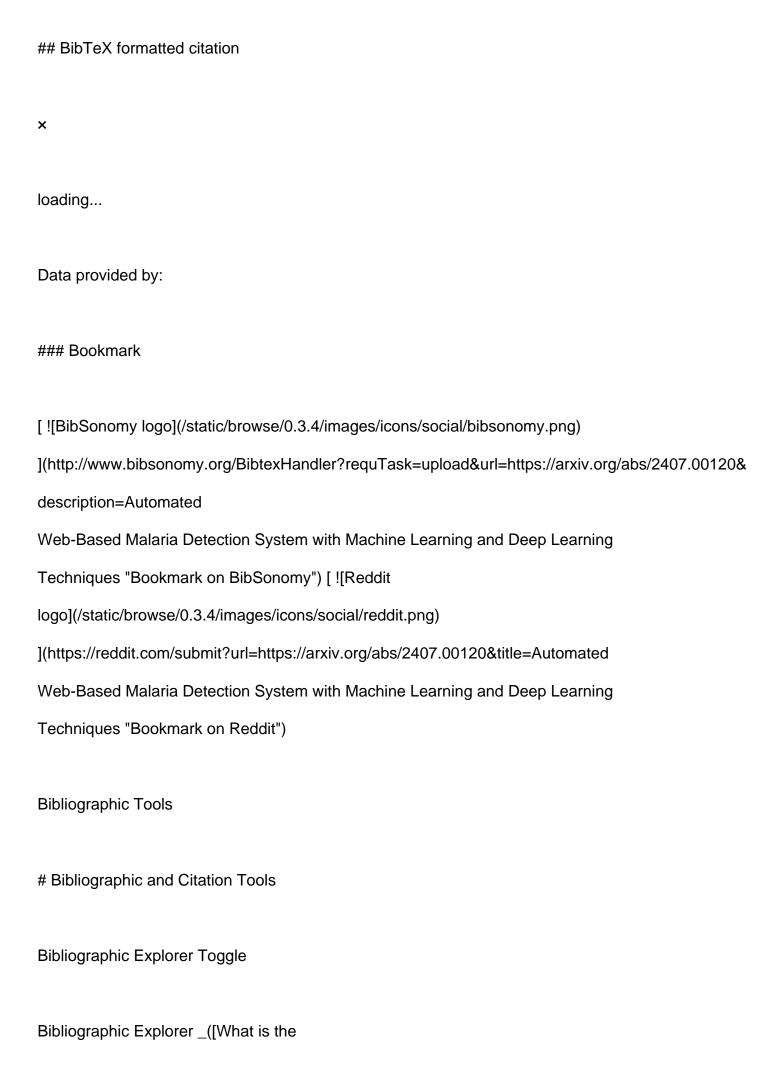
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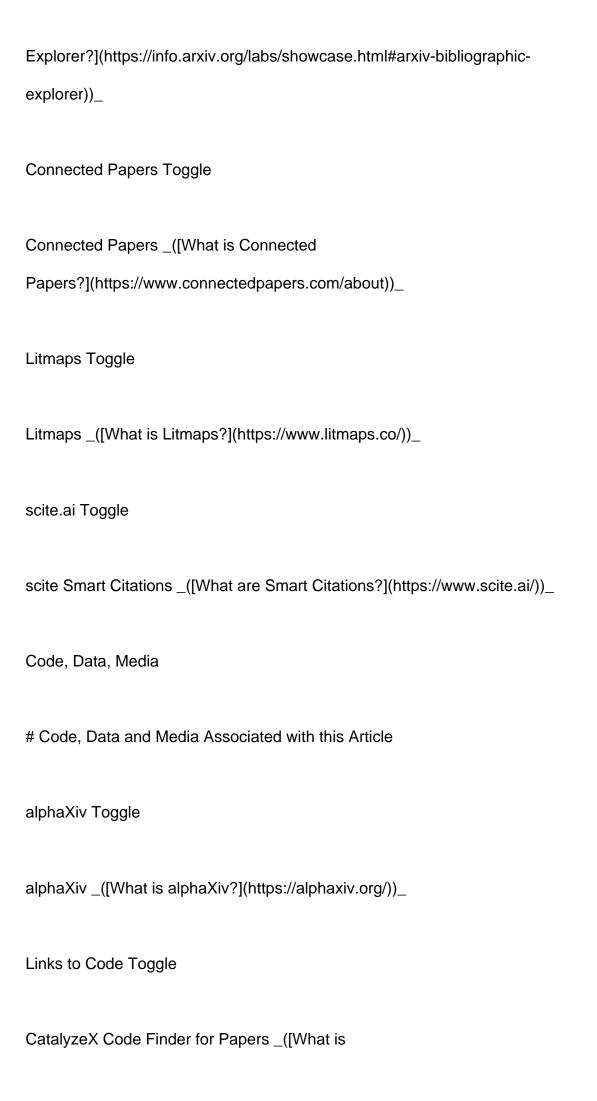
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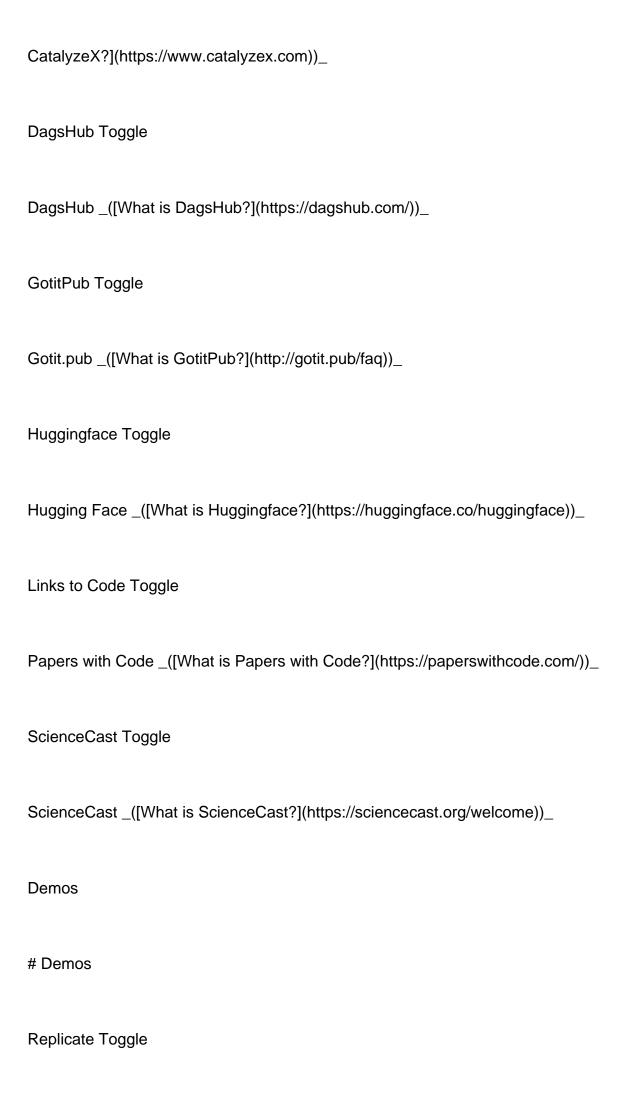
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