# Form Segmentation with tesseract

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submitted in partial fulfilment of the degree of

Bachelor of Science, with Honours

at the University of Asia Pacific, Dhaka,

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March 24, 2016

## Declaration

We, hereby, declare that the work presented in this thesis is the outcome of the investigation performed by us under the supervision of Md. Shiplu Hawlader, Lecturer, Department of Computer Science and Engineering, University of Asia Pacific. We also declare that no part of this thesis and thereof has been or is being submitted elsewhere for the award of any degree or diploma.

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## Approval

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**Acknowledgements**

First of all, thanks to Almighty Allah for giving us the potency and energy to complete this thesis successfully.

We want to express out gratefulness towards our thesis supervisor Md. Shiplu Hawlader for his valuable advices and important suggestions. His regular and active supervision and erudite directions from the beginning to the end were the driving forces for the successful completion of the research work.

We would like to convey our thankfulness to all of our teachers at the Department of Computer Science and Engineering, University of Asia Pacific. Discussions with many of them have helped us tremendously in improving the quality of our work. We also thank the department for providing us with resources which were necessary for the preparation of the thesis.

And last but not the least, we would like to express thanks to our parents and family members for their tremendous support and inspiration.

**Abstract**

Protein can be represented by amino acid interaction network. This is a graph whose vertices are the proteins amino acids and whose edges are the interactions between them. This interaction network is the first step of proteins three-dimensional structure prediction. The network can be predicted using multi-objective evolutionary algorithm and the interaction between amino acid can be confirmed using ant colony algorithm optimization which is a probabilistic optimization algorithm. In this thesis a new multi-objective evolutionary optimization algorithm has been proposed to predict protein secondary structure network using ant colony optimization approach to predict the amino acid interactions.

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