

**ADAPTIVE MULTIMODAL BIOMETRIC FRAMEWORK USING
ANT COLONY OPTIMIZATION AND SUPERVISED LEARNING**

By:

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CERTIFICATE

This is to certify that the thesis titled "**Adaptive Multimodal Biometric Management Using Ant Colony Optimization and Supervised Learning**" being submitted by **Amioy Kumar** to the Department of Electrical Engineering, Indian Institute of Technology, Delhi, for the award of the degree of Doctor of Philosophy, is a record of bonafide research work carried out by him under our guidance and supervision. In our opinion, the thesis has reached the standards fulfilling the requirements of the regulations relating to the degree.

The results contained in this thesis have not been submitted to any other university or institute for the award of any degree or diploma.

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