

Amrita School of Computing, Chennai

Department of Computer Science and Engineering (Artificial Intelligence)

*21AIE205 – Python for Machine Learning*

**Capstone Project Title:Face Recognition Using Fire Fly algorithm**

**ABSTRACT:**

The suggested method makes use of the firefly algorithm to gather naturally occurring sub-clusters of training face images caused by changes in position, illumination, expression, and occlusion, among other factors. The gamma (γ) parameter of the firefly method, which is crucial for maintaining the trade-off between efficient search space exploration, firefly convergence, overall processing time, and recognition accuracy, controls the movement of fireflies in a hyper-dimensional input space. The suggested method is unique because it combines the benefits of RBFNN and the evolutionary firefly algorithm to adaptively evolve the number and centres of hidden neurons. The fast convergence, enhanced face recognition performance, decreased feature selection overhead, and algorithm stability of the suggested technique are its strengths. Benchmark face databases are used to validate the suggested approach like namely ORL, Yale, AR and LFW. The suggested algorithm outperforms some of the already used face recognition techniques in terms of the average face recognition accuracy obtained for the aforementioned face databases.So in this project we are detecting the face using firefly algorithm

**KEYWORDS:**

DNN, Face recognition , RBFNN, FireFly optimization algorithm , Open CV, Numpy.

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