**Facial Matching Project**

**Team:** Tim Boyle – undergraduate student

**Type of project**: Implementation project

**Description:** The objective of this paper is to design and create a facial detection system to determine whether or not what the program is looking at is a face, and then a facial recognition system that will compare two faces. I will enter two unique images via a GUI and it will say that it is a match or not.

**Proposed Methodology and Techniques:** I will use Matlab programming to dynamically determine the location and shapes of the head, eyes, nose and mouth. This will be done via simple histogram analysis globally, and then local histogram analysis. The program will try to account for lighting variations. It will essentially operate on the idea that everyone’s face has unique histogram data describing the face.

**Implementation Choice:** I will be using Matlab.

**References (at least two references which do not include the textbook):**

* How Facial Recognition Systems Work by Ryan Johnson and Kevin Bonsor

<http://computer.howstuffworks.com/facial-recognition.htm>

* Iris recognition using histogram analysis

<http://ieeexplore.ieee.org/Xplore/login.jsp?url=/iel5/9626/30419/01399196.pdf?arnumber=1399196>

* Facial Detection System

<http://vasc.ri.cmu.edu/NNFaceDetector/>

**Tentative Schedule:**

Week 5

* Project proposal

Week 6

* Paper reviews
* Data collection

Week 7

* Matlab coding
* Data Collection

Weeks 8-9

* Matlab coding
* Paper writing

Week 10

* Present