



## Progress Report Submission for C. J. Taylor

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This document focuses on the progress made since the brief meeting on Wednesday.

### **A**greed Upon

- Addition of Tim's objective function<sup>1</sup> to the code.
- Try getting overlaid plots of all the different objective functions for a comparative analysis of their performance and a clearer overview on the behaviour of the optimisation.
- Continue to improve the model-based objective functions, possibly by altering the weighting of the intensity and shape components.

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Electronic version: <http://www.danielsorogon.com/Webmaster/Research/Progress>

<sup>1</sup>The concepts are explained in the ECCV 2004 paper submission.

# *P*rogress Made

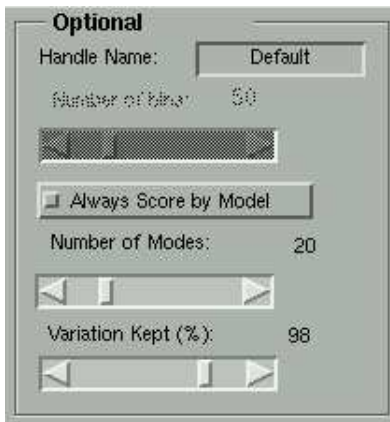
- A second semester course needs to be attended. As Neil's course contents have been thoroughly covered during the summer, Tim's course appears to be a more sensible choice. It may result in greater gain of *new* knowledge.
- Search for inter-operable citation management tools which work under Linux<sup>2</sup>.
- Application sent for the EPSRC summer school in Surrey.
- MATLAB Compiler licensing issues have been investigated. Within ISBE, only Kola has the licensed (and hence activated) compilation executables. After a discussion with Dr. David Buckley from Manchester Computing it turned out that the licence and the activation key will be transferable to me as soon as Kola ceases to use MATLAB.
- The functionality of the registration application has been extended and a practical demonstration is the most suitable way of showing the advances. The following are the new panels and options, most of of which are quite intuitive.



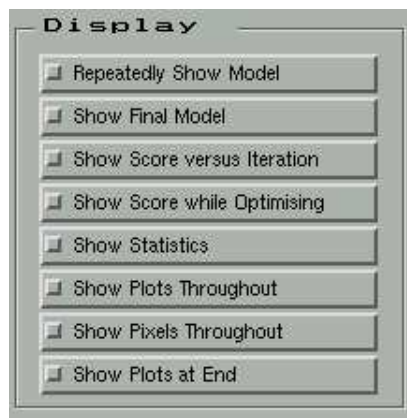
Choice of  $W_s$  weighting

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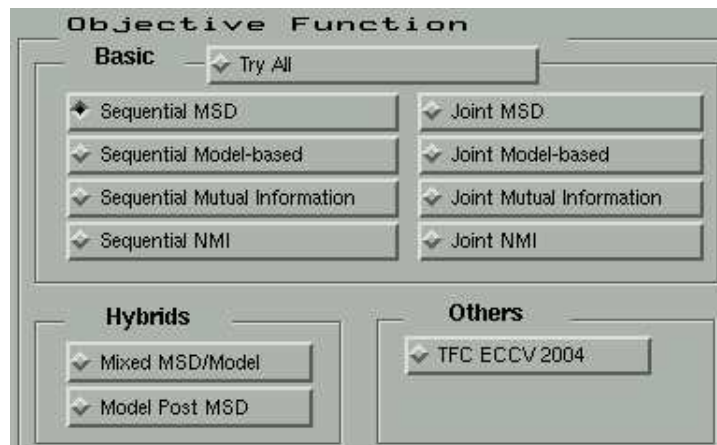
<sup>2</sup>EndNote is not fully platform-independent – a reasonable cause for concern.



Model construction options



Some new display options which have been made available



The objective functions and the new options that runs all. The bottom left option is not operational.

- Experiments have been conducted and the plots in the appendix require a discussion. The current mechanism ensures all optimisations are performed over the same sets of images or else comparison will be data-subjective. In the appendix, however, this argument holds only where the size of the set and the number of iterations agree across the experiments. The new application also allows scores to be purely based on the first  $x$  (in the appendix this value is set to 20) most significant variation modes of the corresponding appearance model.
- The Application's Web site has been further extended.

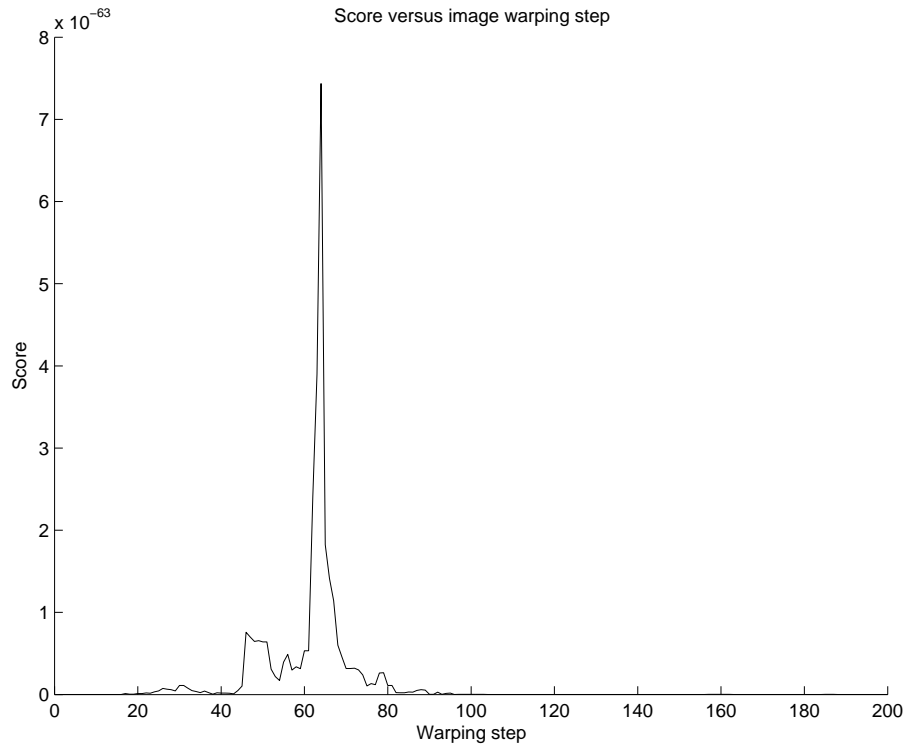
<http://www.danielsorogon.com/Webmaster/Projects/AART>

- My presentation has been arranged to take place on March 2nd. With some planning and rehearsal, the flow and the quality of the presentation will not be as horrible as it previously was.

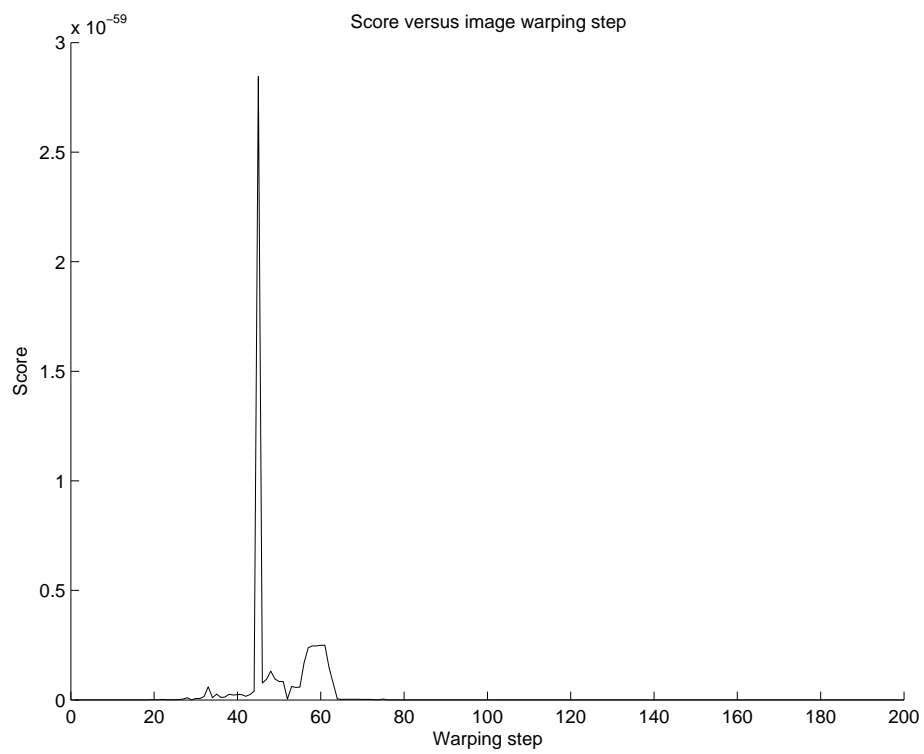
## **N**ext Stage

- Decide on an advanced module choice and attendance.
- Find out if a platform-independent substitute for EndNote (or an EndNote-compatible tool) exists.
- Look at current MATLAB experiments and their results to decide on ways to proceed.
- Dual-head display finally works under Windows, but I expect to invest a couple of hours trying to get the same settings to work on Linux.
- ECCV 2004 Objective function is still worked on at present. There are issues that need to be discussed, e.g. the inability to identify corresponding points to compute the PDF's.

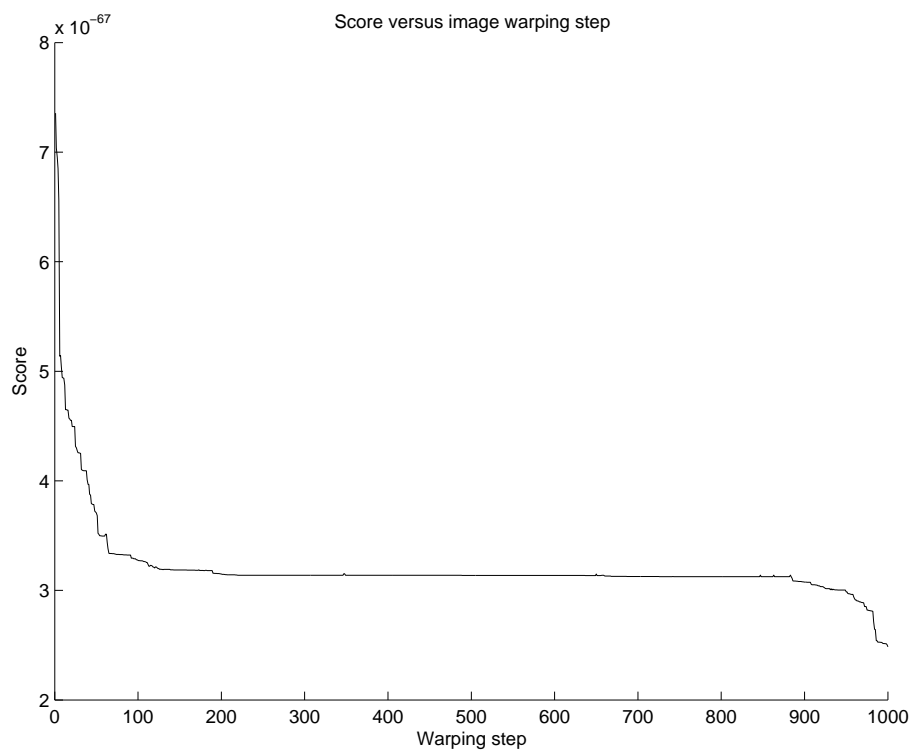
# A ppendix



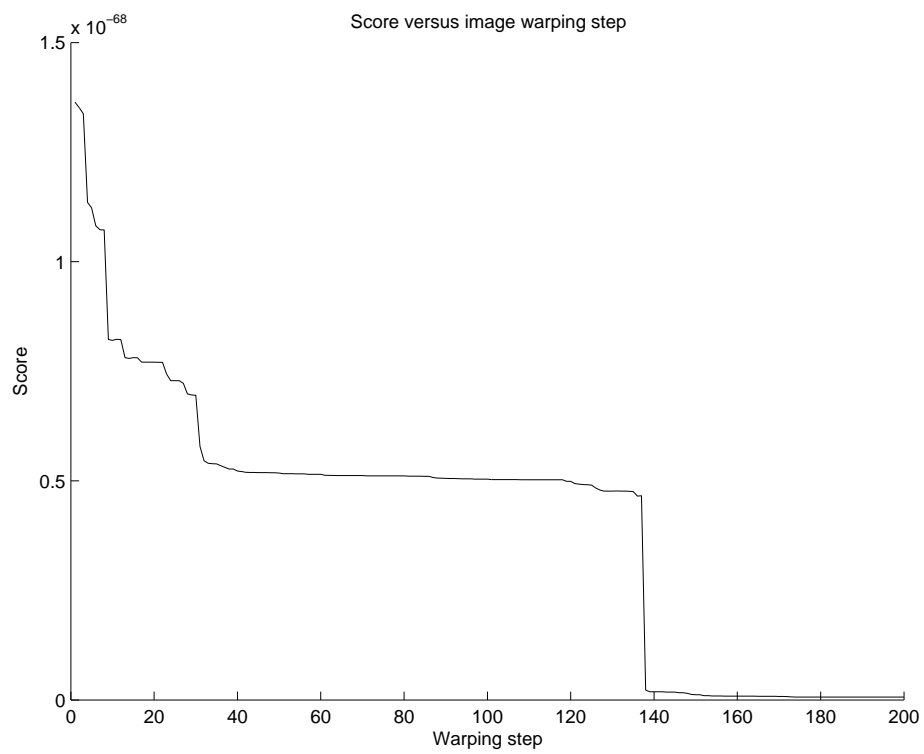
Joint MSD, set size 10 , 20 iterations



Sequential MSD, set size 10, 20 iterations

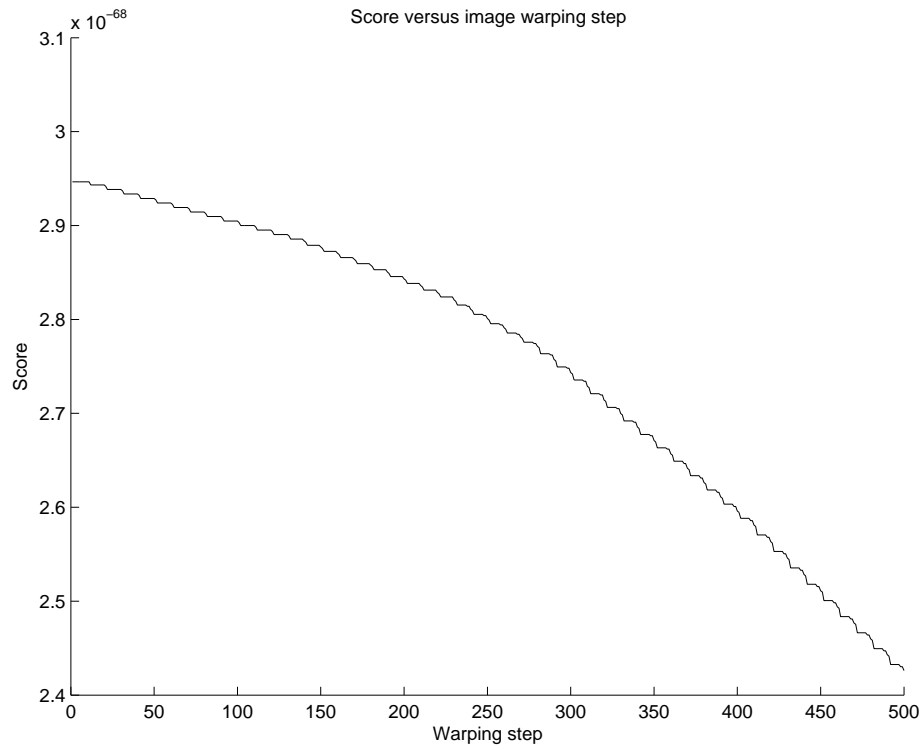


Joint model-based, set size 20, 50 iterations

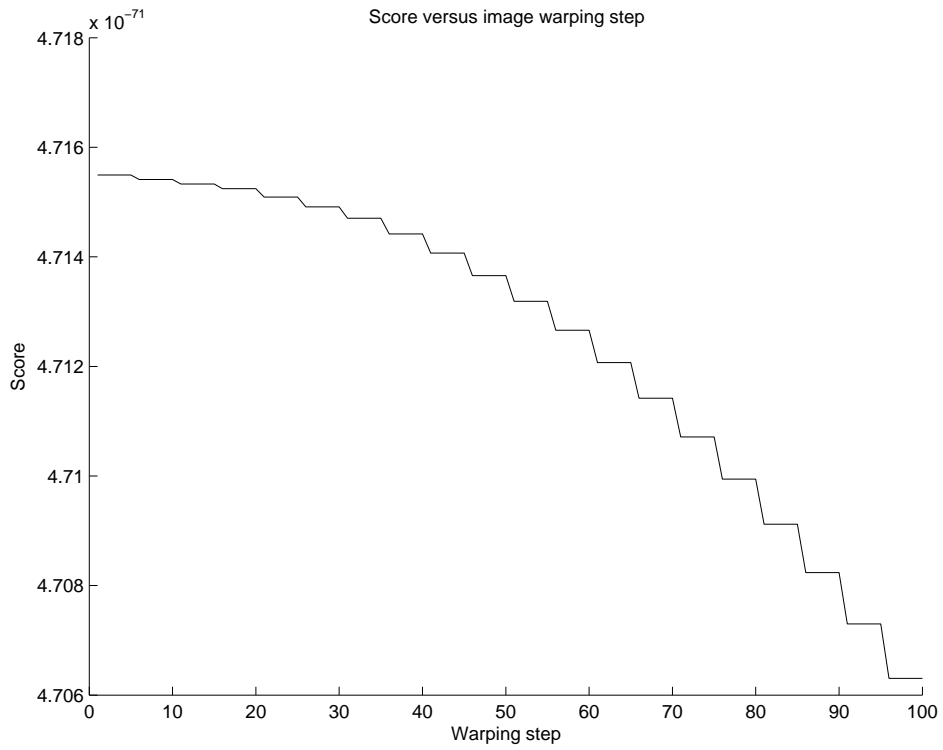


Sequential model-based, set size 10, 20 iterations

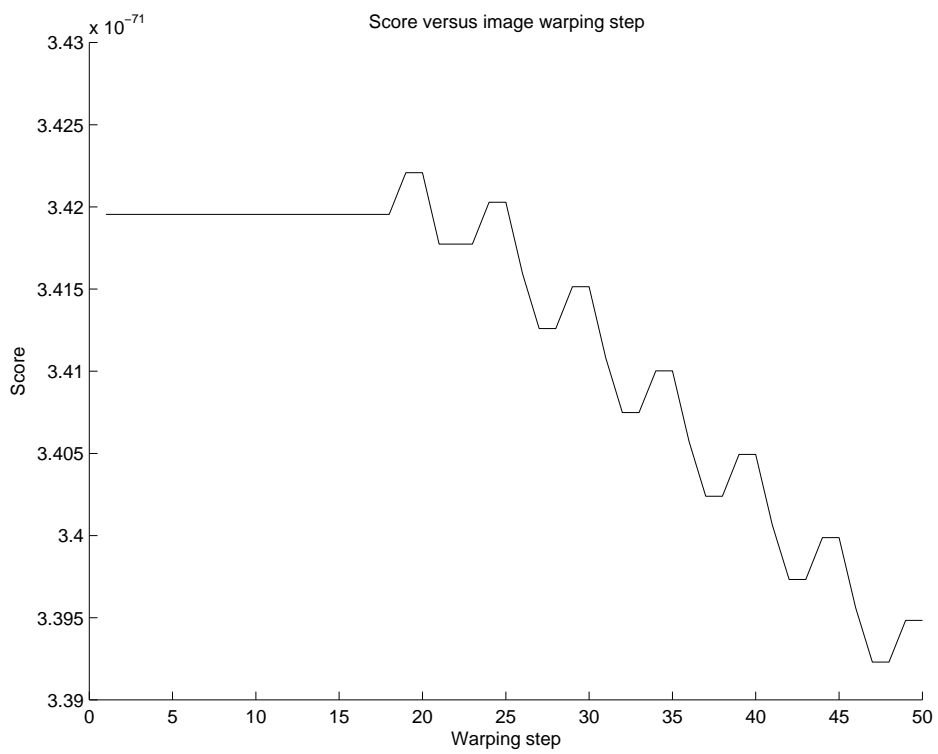




Joint MI, set size 10, 50 iterations



Joint MI, set size 5, 20 iterations



Sequential MI, set size 5, 10 iterations