

New Strategies for Automated Random Testing

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Abstract

This is the abstract text with the formula $v_L(t) = \int_{-\infty}^t \frac{di_L}{dt}$. This paper describes the computation of feature point correspondences using the spectra of a Hermitian property matrix. Firstly, a complex Laplacian (Hermitian) matrix is constructed from the Gaussian-weighted distances and the difference of SIFT angles between each pair of points in the two images to be matched. Matches are computed by comparing the complex eigenvectors of the Hermitian property matrices for the two point sets acquired from the two images. Secondly, we embed the complex modal structure within Carcassoni's iterative alignment method to render it more robust to rotation. Our method has been evaluated on both synthetic and real-world data.

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Declaration

This thesis has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree other than Doctor of Philosophy of the University of York. This thesis is the result of my own investigations, except where otherwise stated. Other sources are acknowledged by explicit references.

I hereby give consent for my thesis, if accepted, to be made available for photocopying and for inter-library loan, and for the title and summary to be made available to outside organisations.

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Some of the material contained in this thesis has appeared in the following published conference and workshop papers:

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Shahid, A. and Kazakov, D. (2010). Retrieving Lexical Semantics from Parallel Corpora. *Polibits*, 5, 25-28.

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CHAPTER 1

Introduction and Motivation

1.1 Problem Description

1.1.1 Test input data is decisive

1.1.2 Selecting Fault finding input is challenging

1.2 Our Goals

1.3 Contributions

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Dirt Spot Sweeping Random Strategy

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Automated Discovery of Failure Domain Strategy

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Directed Random Plus Strategy

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Conclusion

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