

## LIST OF FIGURES

1.1	Feature representation with forced uniform length . . . . .	3
1.2	Feature representation according to character's complexity . . . . .	4
1.3	Illustration of edge-wise pairing comparison . . . . .	4
1.4	Illustration of branch-wise pairing comparison . . . . .	5
2.1	Four zoning mechanism used by Freitas et al. [4] and Hirabara et al. [6] . .	7
2.2	Illustration on hierarchical zoning . . . . .	7
2.3	Hierarchical classification described by tree (left most) and DAG (right most)	9
2.4	Step-based line simplification illustration . . . . .	10
2.5	Douglas-Peucker line simplification illustration . . . . .	10
3.1	Flow chart of the system . . . . .	11
3.2	Example of graph representation of 'A' . . . . .	12
3.3	Example of branch point (top half) and end point (bottom half) . . . . .	12
3.4	Example of a connected set . . . . .	13
3.5	Example of loop (left most), line (center), and curve (right most) structural type . . . . .	14
3.6	Feature points generation process for loop structural type . . . . .	15
3.7	Example of loop (left most), line (center), and curve (right most) structural type with generated feature points . . . . .	15
3.8	Feature values illustration . . . . .	16
3.9	Class hierarchy . . . . .	16
3.10	Various graph representation of 'A' . . . . .	17
4.1	Examples of writing samples with wrong label . . . . .	21
4.2	Examples of unidentified glyph . . . . .	21
4.3	Examples of forced recognition result . . . . .	23
4.4	Examples of preprocessing deformation . . . . .	24
4.5	Examples of writing samples with similar looks . . . . .	24