Ninth International Workshop on Frontiers in Handwriting Recognition

Preliminary Program

V.1 Aug. 22, 2004

Oct. 25, Monday

19:00-20:30 Reception at Daiichi Hotel in Kichijoji

*Registration starts on Tuesday.

Oct. 26, Tuesday

8:15- Registration
8:20-840 Morning Service

8:40-9:00 Greetings

9:00-10:15 Handwriting Recognition and Shape Analysis I

Online Character Recognition Using Eigen-Deformations
H. Mitoma, S. Uchida, and H. Sakoe

Self-Supervised Adaptation for On-Line Text Recognition
L. Oudot, L. Prevost, and A. Moises

Handling Spatial Information in On-Line Handwriting Recognition
S. Marukatat and T. Artières

10:15-10:45 Coffee Break

10:45-12:00 Handwriting Recognition and Shape Analysis II

Generative Models and Bayesian Model Comparison for Shape Recognition
B. Krishnapuram, C. M. Bishop, and M. Szummer

Modulating Population Granularity for Improved Diagnosis of Developmental Dyspraxia from Dynamic Drawing Analysis
S. Hoque, M. C. Fairhurst, and M. A. Razian

Contextual Recognition of Hand-Drawn Diagrams with Conditional Random Fields
M. Szummer and Y. Qi

12:00-13:00 Lunch

13:00-14:40 Classification Techniques I

Support Vector Machines for Handwritten Numerical String Recognition
L. S. Oliveira and R. Sabourin

A Classifier Based on Distance between Test Samples and Average Patterns of Categorical Nearest Neighbors
S. Hotta, S. Kiyasu, and S. Miyahara

Classification of Time-Series Data Using a Generative/Discriminative Hybrid
K. T. Abou-Moustafa, M. Cheriet, and C. Y. Suen

Speeding Up the Decision Making of Support Vector Classifiers
J. Milgram, M. Cheriet, and R. Sabourin

14:40-15:05 Coffee Break

15:05-16:20 Handwriting Analysis and Gesture Recognition I

Model Structure Selection and Training Algorithms for an HMM Gesture Recognition System
N. Liu, B. C. Lovell, P. J. Kootsookos, and R. I. A. Davis

Magic Wand: A Hand-Drawn Gesture Input Device in 3-D Space with Inertial Sensors
S.-J. Cho, J. K. Oh, W.-C. Bang, W. Chang, E. Choi, J. Yang, J. Cho, and D. Y. Kim

Inertial Sensor Based Recognition of 3-D Character Gestures with an Ensemble of Classifiers
J. K. Oh, S.-J. Cho, W.-C. Bang, W. Chang, E. Choi, J. Yang, J. Cho, and D. Y. Kim

16:20-16:45 Coffee Break

16:45-18:00 Recognition of Word and Text I

N-Gram Language Models for Offline Handwritten Text Recognition
M. Zimmermann and H. Bunke

Handwritten Brazilian Month Recognition: An Analysis of Two NN Architectures and a Rejection Mechanism
M. N. Kapp, C. O. De A. Freitas, and R. Sabourin

A New View of the Output from Word Recognition
M.-P. Schambach

19:30-21:00 Night Session: Tutorial Sponsored by Microsoft

"Handwriting Recognition on WindowsXP Tablet PC"
Patrick Haluptzok

Oct. 27, Wednesday

8:15- Registration
8:20-840 Morning Service

8:40-8:55 Classification Techniques II

Combination of Three Classifiers with Different Architectures for Handwritten Word Recognition
S. Günter and H. Bunke

Normalization Ensemble for Handwritten Character Recognition
C.-L. Liu and K. Marukawa

Boosting Driven by Error Free Regions
R. Lindwurm and J. Rottland

10:00-11:00 Poster Session I

Even numbered posters

11:00-12:00 Poster Session II

Odd numbered posters

*Posters may be posted during the whole workshop days except the final one.

12:00-13:00 Lunch

13:00-13:50 Invited Talk by Prof. S. N. Srihari

"Machine Learning in Questioned Handwriting Examination"
Prof. S. N. Srihari, State University of New York at Buffalo, USA

13:50-14:40 Signature Verification and Writer Identification I

Using HMM Based Recognizers for Writer Identification and Verification
A. Schlapbach and H. Bunke

Ink-Deposition Model: The Relation of Writing and Ink Deposition Processes
K. Franke and S. Rose

14:40-15:05 Coffee Break

15:05-16:45 Handwriting Analysis and Gesture Recognition II

Recovering Dynamic Information from Static Handwritten Images
Y. Qiao and M. Yasuhara

A Saliency-Based Multiscale Method for On-Line Cursive Handwriting Shape Description
C. De Stefano, M. Garruto, and A. Marcelli

Writer Dependent Online Handwriting Generation with Bayesian Network
H. Choi, S. J. Cho, and J. H. Kim

Representation and Annotation of Online Handwritten Data
A. S. Bhaskarabhatla, S. Madhvanath, M. N. S. S. K. Pavan Kumar, A. Balasubramanian, and C. V. Jawahar

16:45-17:10 Coffee Break

17:10-18:00 Document Analysis and Applications I

Decompose-Threshold Approach to Handwriting Extraction in Degraded Historical Document Images
Y. Chen and G. Leedham

Text Line Segmentation in Handwritten Document Using a Production System
S. Nicolas, T. Paquet, and L. Heutte

19:30-22:00 Banquet at Daiichi Hotel in Kichijoji

Oct. 28, Thursday

8:20-840 Morning Service

8:40-10:20 Signature Verification and Writer Identification II

Recent Advancements in Automatic Signature Verification
G. Dimauro, S. Impedovo, M. G. Lucchese, R. Modugno, and G. Pirlo

Automatic Writer Identification Using Fragmented Connected-Component Contours
L. Schomaker, M. Bulacu, and K. Franke

ER^2: An Intuitive Similarity Measure for On-Line Signature Verification
H. Lei, S. Palla, and V. Govindaraju

Handwriting Analysis for Writer Verification
A. Bensefia, T. Paquet, and L. Heutte

10:20-10:45 Coffee Break

10:45-12:00 Handwriting Analysis and Gesture Recognition III

Distinguishing Text from Graphics in On-Line Handwritten Ink
C. M. Bishop, M. Svensén, and G. E. Hinton

On-Line Handwritten Documents Segmentation
J. Blanchard and T. Artières

Learning to Parse Hierarchical Lists and Outlines Using Conditional Random Fields
M. Ye and P. Viola

12:00-13:00 Lunch

13:00-14:30 Panel Discussion

"The Present and Future of the Postal Automation System: In Quest of More Advanced Recognition Technology"

Guest panelists:

Edward J. Kuebert, US Postal Service, USA

Dr. Gerhart Stönner, Deutsche Post World Net, Germany
Joseph Ulvr, Canada Post Corporation, Canada
Dave Evans, Royal Mail, UK
Hideo Uchida, Japan Post, Japan

14:30-14:55 Coffee Break

14:55-16:10 Recognition of Word and Text II

Comparing Natural and Synthetic Training Data for Off-Line Cursive Handwriting Recognition
T. Varga and H. Bunke

Handwritten CAPTCHA: Using the Difference in the Abilities of Humansand Machines in Reading Handwritten Words
A. Rusu and V. Govindaraju

Fast Two-Level HMM Decoding Algorithm for Large Vocabulary Handwriting Recognition
A. L. Koerich, R. Sabourin, and C. Y. Suen

16:10-16:35 Coffee Break

16:35-17:50 Document Analysis and Applications II

Improving the Structuring Search Space Method for Accelerating Large Set Character Recognition
Y. Yang and M. Nakagawa

An Empirical Study of Statistical Language Models for Contextual Post-Processing of Chinese Script Recognition
Y.-X. Li and C. L. Tan

Spiral Recognition Methodology and Its Application for Recognition of Chinese Bank Checks
H. Tang, E. Augustin, C. Y. Suen, O. Baret, and M. Cheriet

Oct. 29, Friday

8:20-840 Morning Service

8:40-9:55 Classification Techniques III

Unsupervised Feature Selection for Ensemble of Classifiers
M. Morita, L. S. Oliveira, and R. Sabourin

Using Informational Confidence Values for Classifier Combination: An Experiment with Combined On-Line/Off-Line Japanese Character Recognition
S. Jaeger

A Syntax-Directed Method for Numerical Field Extraction Using Classifier Combination
C. Chatelain, L. Heutte, and T. Paquet

9:55-10:20 Coffee Break

10:20-11:35 Document Analysis and Applications III

D-Pen: A Digital Pen System for Public and Business Enterprises
N. Furukawa, H. Ikeda, Y. Kato, and H. Sako

Effect of Recognition Errors on Information Retrieval Performance
A. Vinciarelli

Document Retrieval System Tolerant of Segmentation Errors of Document Images
T. Nagasaki, T. Takahashi, and K. Marukawa

11:35-12:00 Wrap up and Farewell

12:30
Departure for the Bus Excursion

Poster Session

Oct. 27, Wednesday: 10:00-12:00

History and Future Prospects

P1: History of the International Workshops on Frontiers in Handwriting Recognition
S. Impedovo

Segmentation and Preprocessing

P2: A Recognition Based System for Segmentation of Touching Handwritten Numeral Strings
Y. Lei, C. S. Liu, X. Q. Ding, and Q. Fu

P3: Global Shape Normalization for Handwritten Chinese Character Recognition: A New Method
C.-L. Liu and K. Marukawa

P4: Handwriting Segmentation of Unconstrained Oriya Text
N. Tripathy and U. Pal

P5: Machine-Printed from Handwritten Text Discrimination
E. Kavallieratou, S. Stamatatos, and H. Antonopoulou

P6: Automatic Segmentation of Unconstrained Handwritten Numeral Strings
J. Sadri, C. Y. Suen, and T. D. Bui

P7: Multi-window Binarization of Camera Image for Document Recognition
I.-J. Kim

P8: Local Slant Estimation for Handwritten English Words
Y. Ding, W. Ohyama, F. Kimura, and M. Shridhar

P9: Segmentation of Handwritten Numerals by Graph Representation
M. Suwa and S. Naoi

Feature Extraction and Feature Selection

P10: Character Image Reconstruction from a Feature Space Using Shape Morphing and Genetic Algorithms
C. Iga and T. Wakahara

P11: Extraction of Hybrid Complex Wavelet Features for the Verification of Handwritten Numerals
P. Zhang, T. D. Bui, and C. Y. Suen

P12: Experimental Analysis of the Modified Direction Feature for Cursive Character Recognition
X. Y. Liu and M. Blumenstein

P13: Evaluation of Feature Sets in the Post Processing of Handwritten Pitman's Shorthand
S. M. Htwe, C. Higgins, G. Leedham, and M. Yang

P14: An Optimized Hill Climbing Algorithm for Feature Subset Selection: Evaluation on Handwritten Character Recognition
C. M. Nunes, A. de S. Britto Jr., C. A. A. Kaestner, and R. Sabourin

P15: Foreground and Background Information in an HMM-Based Method for Recognition of Isolated Characters and Numeral Strings
A. de S. Britto Jr., R. Sabourin, F. Bortolozzi, and C. Y. Suen

P16: A New Series of Rotation Invariant Moments Derived by Lie Transformation Group Theory
T. Sakata, R. Nishii, T. S. Chin, and R. Sawae

Character Recognition

P17: The Reduction of Memory and the Improvement of Recognition Rate for HMM On-Line Handwriting Recognition
D. Funada, D. Muramatsu, and T. Matsumoto

P18: Pattern Recognition by Distributed Coding: Test and Analysis of the Power Space Similarity Method
T. Kobayashi and M. Nakagawa

P19: Application of Fuzzy Logic to Online Recognition of Handwritten Symbols
J. A. Fitzgerald, F. Geiselbrechtinger, and T. Kechadi

P20: A Generic Approach for On-Line Handwriting Recognition
S. Marukatat, T. Artières, and P. Gallinari

P21: Learning HMM Structure for On-line Handwriting Modelization
H. Binsztok and T. Artières

P22: Diversity-Performance Relationship in a Handwriting Recognition System Based on Bit-Plane Decomposition
S. Chindaro, K. Sirlantzis, M. C. Fairhurst, and S. Hoque

Asian Character Recognition

Word Recognition and Linguistic Approaches

Signature Verification and Writer Identification

Applications

P46: PATRAM—A Handwritten Word Processor for Indian Languages
K. Madduri, K. H. Aparna, and V. S. Chakravarthy

P47: The WANDAML Markup Language for Digital Document Annotation
K. Franke, I. Guyon, L. Schomaker, and L. Vuurpijl

P48: Recognition and Grouping of Handwritten Text in Diagrams and Equations
M. Shilman, P. Viola, and K. Chellapilla

P49: Use of Chatroom Abbreviations and Shorthand Symbols in Pen Computing
W. B. Huber, S.-H. Cha, C. C. Tappert, and V. L. Hanson

P50: A System towards Indian Postal Automation
K. Roy, S. Vajda, U. Pal, and B. B. Chaudhuri

P51: Verifying the UNIPEN Devset
L. Vuurpijl, R. Niels, M. van Erp, L. Schomaker, and E. Ratzlaff

P52: A Study on Decision Rule for Japanese Dictation Test
M. Shi, W. Ohyama, T. Wakabayashi, and F. Kimura

P53: Mode Detection and Incremental Recognition
S. Rossignol, D. Willems, A. Neumann, and L. Vuurpijl

End of Program