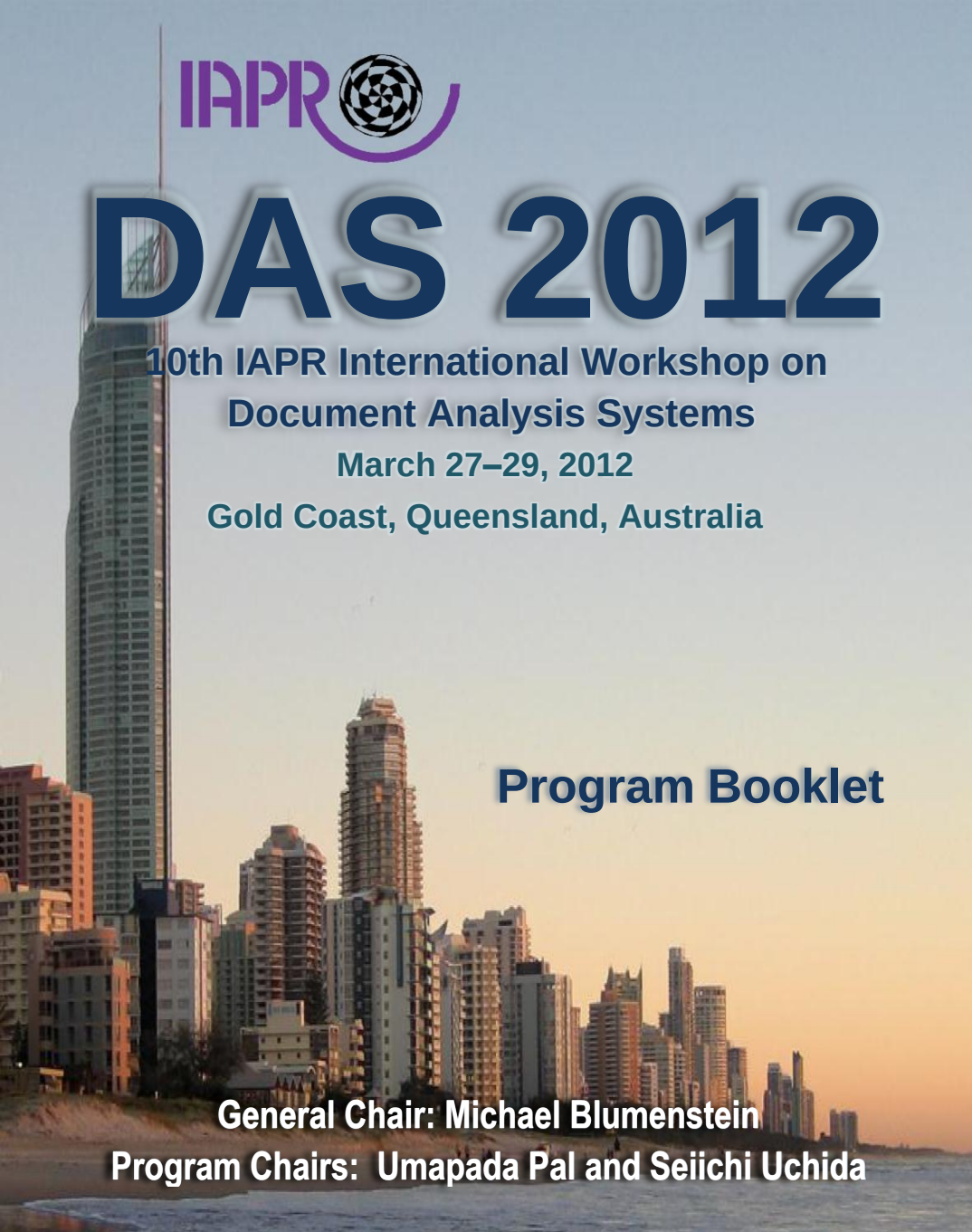

DAS 2012

10th IAPR International Workshop on Document Analysis Systems

March 27–29, 2012

Gold Coast, Queensland, Australia

Program Booklet

General Chair: Michael Blumenstein

Program Chairs: Umapada Pal and Seiichi Uchida

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Message from the Chairs

Our heartiest welcome to DAS 2012, the 10th IAPR International Workshop on Document Analysis Systems being held on the Gold Coast, Australia.

DAS 2012 is the tenth workshop in the series. Previous DAS workshops were held in Kaiserslautern, Germany (1994); Malvern, PA, USA (1996); Nagano, Japan (1998); Rio de Janeiro, Brazil (2000); Princeton, NJ, USA (2002); Florence, Italy (2004); Nelson, New Zealand (2006), Nara,Japan (2008) and Boston, USA (2010).

DAS 2012 is a single-track peer-reviewed, 100% participation conference and it attempts to bring together industrialists and academics, as well as practitioners and theoreticians from numerous related disciplines involved in document analysis systems research and to provide opportunities for interactions between them.

On behalf of the organizing committee, we are happy to announce that we received 131 submissions from researchers of 32 countries around the world. The program committee Chairs invited 126 international reviewers (including the program committee members) to review the papers.

All papers have been refereed by at least three reviewers (115 papers were reviewed by three reviewers and the other 16 papers were reviewed by four reviewers). Finally, 91 papers were accepted, of which 36 are for oral presentation and 55 are for poster presentation.

These accepted papers cover diverse areas of preprocessing, feature extraction, segmentation, recognition, signature verification, text classification, image retrieval techniques, video document processing, document image decoding, graphical document processing, performance evaluation, historical and handwriting documents, different systems on document analysis etc. The final program consists of seven oral sessions, two poster sessions and one discussion session.

In addition, one distinguished speaker, Dr. Samy Bengio, Research Scientist in Machine Learning, Google Inc. California, USA has accepted our invitation to deliver a keynote talk at the workshop. He will deliver the keynote address on "Learning A Semantic Space: From Image Annotation to Music Similarity". We thank him sincerely for accepting our invitation to deliver the keynote. We would also like to express our sincere thanks to Professor Gernot Fink of Technische Universität Dortmund, Germany and Professor Koichi Kise of Osaka Prefecture University, Japan for their informative tutorials.

At this point we thank all the researchers who showed interest in this DAS by sending contributed papers. Thanks are also due to all chairs of various activities, program committee members, reviewers, and local organizing committee members including the Institute for Integrated and Intelligent Systems (IIIS) at Griffith University for their strong support and active participation.

Griffith University, including the Science, Environment, Engineering and Technology Group, as well as Gold Coast Tourism and the Gold Coast City Council have extended their support in organizing the workshop to a great extent. We sincerely thank all of them for their kind help. Last but not the least; we would like to extend a special thanks to our valued sponsors of the workshop.

We hope you will find your stay fruitful and rewarding. We trust that you will enjoy the exchange of technical and scientific ideas during the three days of DAS 2012 as well as getting a flavour of the Gold Coast city, which is one of the most famous and most beautiful tourist destinations in Australia. We extend our warmest welcome to you, and hope that your visit will be a memorable one!

Michael Blumenstein
DAS 2012 General Chair

Umapada Pal
Seiichi Uchida
DAS 2012 Program Chairs

Workshop Committee

Workshop Chair

Michael Blumenstein, *Griffith University, Australia*

Program Co-Chairs

Umapada Pal, *Indian Statistical Institute, India*
Seiichi Uchida, *Kyushu University, Japan*

Local Arrangements & Publicity Chair

Graham Leedham, *University of New England, Australia*

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S.-H. Kim, *Chonnam National University, Korea*
F. Kimura, *Mie University, Japan*
K. Kise, *Osaka Prefecture University, Japan*
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B. Lovell, *University of Queensland, Australia*
R. Manmatha, *University of Massachusetts, USA*
S. Marinai, *University of Florence, Italy*
M. Nakagawa, *Tokyo University of Agriculture and Technology, Japan*
S. Naoi, *Fujitsu R&D Center, Japan*
P. Natarajan, *Raytheon BBN Technologies, USA*
I.-S. Oh, *Chonbuk National University, Korea*
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U. Pal, *Indian Statistical Institute, India*
H. Sako, *Hosei University, Japan*

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V. Subramaniam, *IBM Research, India*
J. Sun, *Fujitsu R&D Center, China*
C. L. Tan, *National University of Singapore, Singapore*
K. Tombre, *INRIA, France*
S. Uchida, *Kyushu University, Japan*
B. Verma, *Central Queensland University, Australia*

Sponsors

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Program at a glance

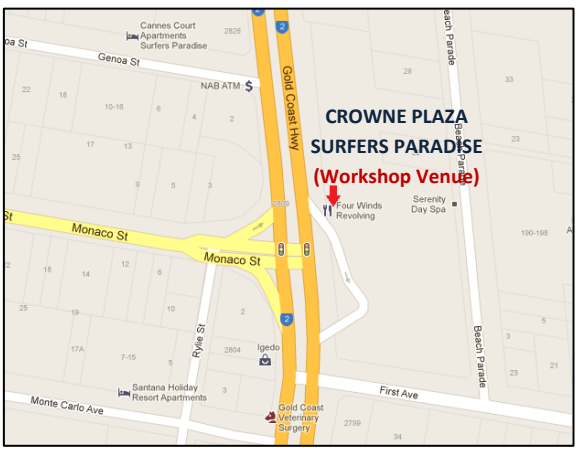
Time	March 26 Monday	March 27 Tuesday	March 28 Wednesday	March 29 Thursday
9.00 - 10.20	Tutorial 1 (With Coffee break)	Opening Ceremony (9.00 - 9.20) Keynote Lecture (9.20 - 10.20)	Session 3: Video Text Processing	Session 6: Retrieval
10.20 - 10.40		Coffee Break	Coffee Break	Coffee Break
10.40 - 12.40		Session 1: Systems and Intelligence	Session 4: Pre-processing	Session 7: Applications
12.40 - 13.40	Lunch (On Own)	Lunch	Lunch	Lunch
13.40 - 15.10	Tutorial 2 (With Coffee break)	Poster 1 / Demo	Discussion	Poster 2 / Demo
15.10 - 15.30		Coffee Break	Coffee Break	Coffee Break
15.30 - 17.10		Session 2: Document Classification and Recognition	Session 5: Text Recognition	Reports of Discussion Group (15.30 - 16.30) Concluding Remarks & Awards (16.30 - 17.00)
18.00 - 22.00	Welcome Reception (18.00 - 22.00)	DAS-2012 PC Dinner (19.00 - 21.30)	Banquet (18.00 - 21.30)	

Workshop Venue

DAS 2012 workshop will take place at the Crowne Plaza, Surfers Paradise. The details about the venue, its location, transportation options, and others are given below.

Venue and its location:

CROWNE PLAZA SURFERS PARADISE
2807 Gold Coast Highway, Surfers Paradise, Queensland, Australia 4217
Direct Line: +61 7 5592 9927 Main Line: +61755929900, +617 55929900 Fax: +61 7 5592 9977
http://www.ichotelsgroup.com/crowneplaza/hotels/gb/en/reservation



Registration Desk:

The registration desk is located in the Pre function area of the hotel Crowne Plaza. The registration timings are given below.

26th March (tutorial day): 8am - 10am and 4pm - 7pm
27th March (day one): 8am - 5pm
28th March (day two): 8.30 am - 5pm
29th March (day three): 8.30 am - 5pm

Transportation:

There are many transportation options (Taxi, Door to Door services, train, Bus, etc.) available from Brisbane and Gold Coast airports.

1. From Gold Coast International Airport, Coolangatta (OOL) to workshop venue

- Distance: 13.67 MI/22.0 KM NORTH to Workshop venue
- **By Taxi:**
  - Taxi Charge (one way): $ 60.00 AUD
  - Time : Around 40 minutes
- **By Bus:**
  - Route no. 702
  - Time : Around 45 minutes
  - Nearest Bus stop: Gold Coast Hwy & Monaco St
  - Fare : About $8.00 AUD
  - Bus time tables can be sourced from www.translink.com.au
- Direction can be sourced from www.whereis.com.au or from the hotel Concierge.

2. From Brisbane International Airport(BNE) to workshop venue

- Distance: 52.82 MI/85.0 KM NORTH to Workshop venue
- **By Taxi**:
  - Taxi Charge (one way): $ 200.00 AUD
  - Time by Taxi: 1.25 hours
- **By Train**:
  - Train Charge (one way): $ 30.00 AUD
  - Time By Train: 1 hour 30 minutes
  - Nearest Station to Workshop Venue: Nerang
  - Timetable and Fare can be sourced from www.translink.com.au
- Direction can be sourced from www.whereis.com.au or from the hotel Concierge.

3. From Nerang station (nearest railway station) to workshop venue

- Distance: 6.21 MI/10.0 KM EAST to Workshop venue
- **By Taxi**:
  - Taxi Charge (one way): $ 25.00 AUD
  - Time by Taxi: Around 20 mins
  - Directions from Nerang Train Station to workshop venue can be accessed at ww.whereis.com.au
- **By Bus**:
  - Direct bus route no: 745
    - Nearest Bus Stop : Gold Coast Hwy & Monaco St.
    - Time : around 30 mins
  - Alternatively the following bus route can be used,
    - Nerang Station to Southport (Australia Fair):
      - Bus route: 20, 20A, etc
      - Time: Around 20 – 30 minutes
    - Southport (Australia Fair) to Workshop venue:
      - Bus route: 700, 702, 703, 706, 709, etc
      - Time: Around 20 minutes
    - Fare and timetable can be sourced from www.translink.com.au

4. By Coach

Coachtrans Australia (www.coachtrans.com.au), Con-X-Ion (www.con-x-ion.com) etc. provides a door to door service between many destinations around Brisbane and the Gold Coast and can be booked on-line.

The one-way direct transfer from Brisbane International Airport to the workshop venue takes about 1h 30m and currently costs $46.

The one-way direct transfer from Gold Coast Domestic/International Airport to the workshop venue takes 45m and currently costs $21.

5. Hire cars

For delegates wishing to hire a car during their stay, Brisbane International Airport and Gold Coast Domestic/International Airport both have agencies for most of the major international car rental companies.

6. By Bus

For delegates wishing to travel by bus can check the bus timing and the route details at http://translink.com.au/. Translink coordinates and deliver bus, train and ferry services across South East Queensland.

Other Information:

Currency: Australian Dollar is the official currency of Australia. Most of the banks provide currency exchange facilities.

Weather: It is autumn season in Australia now. The temperature at Gold Coast will range between 20 C and 27 C, during the time of the conference.

Time Zone: The time at Gold Coast is 10 hours ahead of the Greenwich Mean Time (GMT +10hrs).

Language: English is the official Language in Australia.

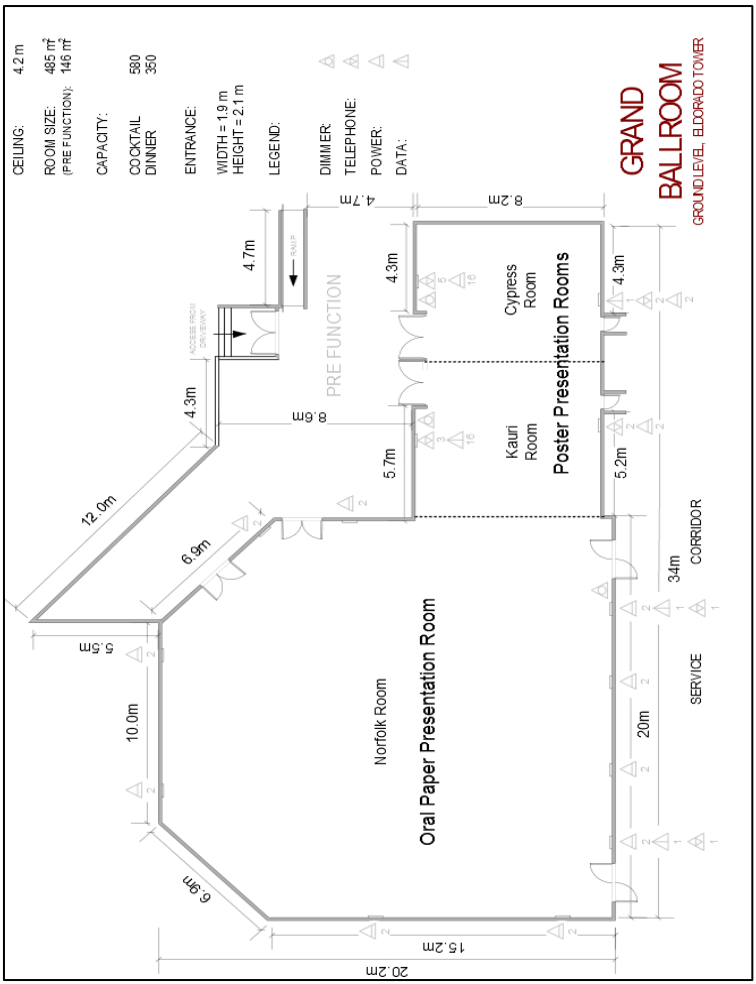
Electrical Specifications: Electrical sockets (outlets) in of Australia are the "Type I" Australian AS-3112 type. If your appliance's plug doesn't match the shape of these sockets, you will need a travel plug adapter in order to plug in. Australia as the standard electric current of 220/240 Volts, with both two and three pin plugs.

Telephone: The international access code for Australia is +61. 7 is the local area or city code used to dial to Gold Coast. Australia has the major cellular networks namely Vodafone, Telstra, Optus, etc..

Some useful Contact number:

- Workshop Hotel: +61 755929900
- Police: 000
- Gold Coast Cabs: 131 008
- Medical Emergency: 000

Floor Plan


GRAND
BALLROOM
GROUND LEVEL, ELDORADO TOWER
CEILING: 4.2 m
ROOM SIZE: 485 m²
(PRE FUNCTION): 146 m²
CAPACITY:
COCKTAIL 580
DINNER 350
ENTRANCE:
WIDTH = 1.9 m
HEIGHT = 2.1 m
LEGEND:
DIMMER:
TELEPHONE:
POWER:
DATA:
PRE FUNCTION
Norfolk Room
Oral Paper Presentation Room
Kauri Room
Cypress Room
Poster Presentation Rooms
SERVICE
CORRIDOR
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4.3m
4.7m
8.6m
8.2m
4.7m
12.0m
6.9m
5.5m
10.0m
6.9m
15.2m
20.2m

Paper Presentation Instructions

Oral Presentation

Each paper in an oral session is allocated 20 minutes. This includes time required for introduction of the speaker, as well as time (about 3-4 minutes) for questions from the audience. Therefore, authors are advised to prepare a 16-17 minute talk.

Lecture room will be equipped with a Laptop, an LCD projector, a Screen for Display and a Pointer. However, authors may use their laptops for presentation. Authors who want use the organisers laptop need to copy their presentations to the computer well in advance of the sessions in which their paper is to be presented.

Poster Presentation

Each poster paper will be provided with a board of size 120 cm width and 240 cm height. However, the authors may prepare their poster of A0 size. Preferred display mode is Portrait. Board mounting materials will be provided by the organisers.

Please note that in DAS-2012, you will have opportunity to mount your poster during the full conference period (27th, 28th and 29th March) so that participants can visit your poster at any time in addition to your presentation time and discuss. So the organizers request you to mount your poster in the morning of 27th March in the proper place marked with poster number (R1, R2 .. for poster of regular papers and S1, S2, .. for poster of short papers). A presenting author is expected to be available in front of the poster for the entire duration of the poster session mentioned in the technical program. You are requested to remove your poster only after the Poster - 2 session of 29th March.

Social Program

Welcome Reception

Date and time: March 26, starting at 18.00 hrs

Venue: Cristels Room, Crowne Plaza, Surfers Paradise.

Notes: The Welcome Reception will be held in Cristels Room of the Crowne Plaza. Cocktail food and drinks will be served from 6pm - 8pm. Business Attire.

Banquet

Date and time: March 28, starting at 18.00 hrs

Venue: Australian Outback Spectacular

Notes: The banquet on the 28th March evening will be held at the Outback Spectacular, away from the Crowne Plaza. Two buses will leave at 5.45pm from the Crowne Plaza hotel foyer for Australian Outback Spectacular. The buses will return at 9.30pm. Smart Casual dress.

Keynote lecture

Title: Learning A Semantic Space: From Image Annotation to Music Similarity
(Tuesday, March 27th, 2012, 9.20am - 10.20am)

Chair: Michael Blumenstein

Dr. Samy Bengio
Research Scientist in Machine Learning
Google Inc
California, USA

Samy Bengio (PhD in computer science, University of Montreal, 1993) is a research scientist at Google since 2007. Before that, he was senior researcher in statistical machine learning at IDIAP Research Institute since 1999, where he supervised PhD students and postdoctoral fellows.

His research interests span many areas of machine learning such as large scale online learning, support vector machines, time series prediction, mixture models, speech recognition, multi-channel and asynchronous sequence processing, multi-modal (face and voice) person authentication, brain computer interfaces, and document retrieval. He is on the editorial boards of the Journal of Machine Learning Research and the Machine Learning Journal, has been general chair of the Workshops on Machine Learning for Multimodal Interactions (MLMI'2004, 2005 and 2006), programme chair of the IEEE Workshop on Neural Networks for Signal Processing (NNSP'2002), and on the programme committee of several international conferences such as NIPS, ICML and ECML. More information can be found on his website: http://bengio.abracadoudou.com.

Tutorials

Tutorial 1

(Monday, March 26th, 2012, 9.00am - 12.40pm)

Chair: Robert Sablatnig

Speaker :Prof. Gernot A. Fink
TU Dortmund, Department of Computer Science
Dortmund, Germany

Title: Markov Models for Handwriting Recognition

Abstract:

Handwriting recognition today is an important component of many systems in the field of document analysis and recognition. Therefore, researchers and practitioners are routinely faced with the problem of using handwriting recognition technology, either by applying it within the framework of a larger document analysis system or by developing methods for reading handwritten texts.

With the introduction of the statistical paradigm to the field of automatic handwriting recognition it became possible to build extremely successful recognizers based on the concept of Markovian models that offer two important advantages over competing approaches: First, the parameters of the complex recognition models can largely be estimated automatically from sample data.

Second, the resulting models implicitly solve the problem of segmentation and classification in an integrated manner. Therefore, the majority of handwriting recognition systems today is based on this technology (Ploetz & Fink 2010).

Recognition systems based on Markov models use two distinct modelling components. The appearance of the handwriting is described by hidden Markov models (HMMs), which constitute the so-called writing model. The second modelling component describes long term sequencing restrictions within the data, i.e., on the level of word or character sequences. This so-called language model is usually realized by Markov chain models. In combination, the writing and the language model form a powerful statistical description of handwriting. The parameters of the models can be estimated automatically on sample data. The so-called decoding of the integrated model - i.e., the search for the optimal path through the combined state space - provides the optimal segmentation and classification of the data in an integrated framework.

In this tutorial the mathematical foundations of Markov models as well as the important concepts, methods, and algorithms necessary to build successful handwriting recognition systems in practice will be presented. The tutorial is targeted at people basically familiar with statistical pattern recognition methods who want to deepen their knowledge in order to be able to build real handwriting recognition systems. The tutorial will be organized in two parts.

In the first part the necessary conceptual background will be introduced including the architecture of a state-of-the-art statistical handwriting recognition system. The second part will focus on the practical application of the methods presented including examples on how the respective functionality can be achieved using the open-source development environment ESMRALDA (Fink & Ploetz 2008; http://sourceforge.net/projects/esmeralda).

For participants of the tutorial willing to delve deeper into the subject a worked out example of the development of a handwriting recognition system for a small offline recognition task will be available as accompanying material.

Tutorial 2

(Monday, March 26th, 2012, 1.40pm - 5.10pm)

Chair: Palaiahnakote Shivakumara

Speaker : Prof. Koichi Kise
Intelligent Media Processing Group
Department of Computer Science and Intelligent Systems,
Graduate School of Engineering,
Osaka Prefecture University, Japan.

Title: Large-Scale Document Image Retrieval and Character Recognition with Approximate Nearest Neighbor Techniques

Abstract:

"Large-scale" has become one of the important keywords in many fields of pattern recognition including document analysis. The reason is threefold: (1) Large-scale data are available, (2) Computational Environments are with enough power to deal with such data, (3) Better services including higher recognition rates and wider coverage of objects are achieved.

In this tutorial, I focus on two sub-fields of the document analysis, document image retrieval and character recognition, and show the current state-of-the-art technologies of "large-scale" from their background. An interesting point which may attract the audience is that these technologies cannot be purely seen as an extension of the existing major technologies in the field. One of the biggest problems of "large-scale" retrieval and recognition is how to make it efficient. For this purpose, the technology called "approximate nearest neighbor search" is often applied. This makes the matching several orders of magnitude faster than the brute-force at the cost of accuracy. Thus, in the tutorial, I would also like to introduce approximate nearest neighbor search from the basic to the state-of-the-art.

Oral Sessions

Session 1: Systems and Intelligence

(Tuesday, March 27th, 2012, 10.40am - 12.40pm)

Chair: **Umapada Pal**

10.40 **Adapting the Turing Test for Declaring Document Analysis Problems Solved**
Daniel Lopresti and George Nagy.

11.00 **Towards Understandable Explanations for Document Analysis Systems**
Bjorn Forcher, Stefan Agne, Andreas Dengel, Michael Gillmann, and Thomas Roth-Berghofer.

11.20 **A Modular Metadata Extraction System for Born-Digital Articles**
Dominika Tkaczyk, Lukasz Bolikowski, Artur Czeczko, and Krzysztof Rusek.

11.40 **Koios++: A Query-Answering System for Handwritten Input**
Marcus Liwicki, Bjorn Forcher, Philipp Jaeger, and Andreas Dengel.

12.00 **Attentive Tasks: Process-Driven Document Analysis for Multichannel Documents**
Kristin Stamm and Andreas Dengel.

12.20 **The Non-geek's guide to the DAE Platform**
Bart Lamiroy and Daniel Lopresti.

Session 2: Document Classification and Recognition

(Tuesday, March 27th, 2012, 3.30pm - 5.10pm)

Chair: Seiichi Uchida

3.30 **Document Classification Using Multiple Views**
Albert Gordo, Florent Perronnin, and Ernest Valveny.

3.50 **New Spatial-Gradient-Features for Video Script Identification**
Danni Zhao, Palaiahnakote Shivakumara, Shijian Lu, and Chew Lim Tan.

4.10 **Multiple Feature-Classifier Combination in Automated Text Classification**
Lazaro S.P. Busagala, Wataru Ohyama, Tetsushi Wakabayashi, and Fumitaka Kimura.

4.30 **An Efficient Framework for Searching Text in Noisy Document Images**
Ismet Zeki Yalniz and R. Manmatha.

4.50 **A Prototype System of Courtesy Amount Recognition for Chinese Bank Checks**
Dong Liu and Youbin Chen.

Session 3: Video Text Processing

(Wednesday, March 28th, 2012, 9.00am - 10.20am)

Chair: David Doermann

9.00 **Adaptive Graph Cuts Based Binarization of Video Text Images**
Cunzhao Shi, Chunheng Wang, Baihua Xiao, and Yang Zhang.

9.20 **Recent Advances in Video Based Document Processing: A Review**
Nabin Sharma, Umapada Pal, and Michael Blumenstein.

9.40 **A Fast Stroke-Based Method for Text Detection in Video**
Bo Bai, Fei Yin, and Cheng-Lin Liu.

10.00 **A New Method for Arbitrarily-Oriented Text Detection in Video**
Nabin Sharma, Palaiahnakote Shivakumara, Umapada Pal, Michael Blumenstein, and Chew Lim Tan.

Session 4: Preprocessing

(Wednesday, March 28th, 2012, 10.40am - 12.40pm)

Chair: Venu Govindaraju

10.40 **A Robust Approach for Local Interest Point Detection in Line-Drawing Images**
The Anh Pham, Mathieu Delalandre, Sabine Barrat, and Jean-Yves Ramel.

11.00 **Document Preprocessing System -- Automatic Selection of Binarization and Denoising Approaches Parameters**
Ines Ben Messaoud, Haikal El Abed, Hamid Amiri, and Volker Maergner.

11.20 **Local Consistency Constrained Adaptive Neighbor Embedding for Text Image Super-Resolution**
Wei Fan, Jun Sun, Satoshi Naoi, Akihiro Minagawa, and Yoshinobu Hotta.

11.40 **Binarization-Free Text Line Segmentation for Historical Documents Based on Interest Point Clustering**
Angelika Garz, Andreas Fischer, Robert Sablatnig, and Horst Bunke.

12.00 **Arabic Handwritten Text Line Extraction by Applying an Adaptive Mask to Morphological Dilation**
Muna Khayyat, Louisa Lam, Ching Suen, Fei Yin, and Cheng-Lin Liu.

12.20 **Scanning Neural Network for Text Line Recognition**
Sheikh Faisal Rashid, Faisal Shafait, and Thomas Breuel.

Session 5: Text Recognition

(Wednesday, March 28th, 2012, 3.30pm - 5.10pm)

Chair: Andreas Dengel

3.30 **Improving Handwritten Chinese Text Recognition by Unsupervised Language Model Adaptation**
Qiu-Feng Wang, Fei Yin, and Cheng-Lin Liu.

3.50 **Improving Book OCR by Adaptive Language and Image Models**
Dar-Shyang Lee and Ray Smith.

4.10 **Combining Multi-Scale Character Recognition and Linguistic Knowledge for Natural Scene Text OCR**
Khaoula Elagouni, Christophe Garcia, Franck Mamalet, and Pascale Se'billot.

4.30 **Offline Handwritten English Character Recognition Based on Convolutional Neural Networks**
Aiquan Yuan, Gang Bai, Lijing Jiao, and Yajie Liu.

4.50 **Robust Recognition of Degraded Documents Using Character N-Grams**
Shrey Dutta, Naveen Sankaran, Pramod Kompalli, and Jawahar C.V.

Session 6: Retrieval

(Thursday, March 29th, 2012, 9.00am - 10.20am)

Chair: Daniel Lopresti

9.00 **Logo Retrieval in Document Images**
Rajiv Jain and David Doermann.

9.20 **Similar Fragment Retrieval of Animations by a Bag-of Feature Approach**
Weihan Sun, Koichi Kise, and Yoann Champeil.

9.40 **Writer Retrieval and Writer Identification using Local Features**
Stefan Fiel and Robert Sablatnig.

10.00 **An Efficient Coarse-to-Fine Indexing Technique for Fast Text Retrieval in Historical Documents**
Partha Roy, Fre'de'ric Rayar, and Jean-Yves Ramel.

Session 7: Applications

(Thursday, March 29th, 2012, 10.40am - 12.40pm)

Chair: Graham Leedham

10.40 **ExpressMatch: A System for Creating Ground-Truthed Datasets of Online Mathematical Expressions**
Frank Julca and Nina Hirata.

11.00 **An Effective Staff Detection and Removal Technique for Musical Documents**
Bolan Su, Shijian Lu, Umapada Pal, and Chew Lim Tan.

11.20 **Symbol Recognition Using a Galois Lattice of Frequent Graphical Patterns**
Ameni Boumaiza and Salvatore Tabbone.

11.40 **Quality Evaluation of Facsimiles of Hebrew First Temple Period Inscriptions**
Arie Shaus, Eli Turkel, and Eli Piasetzky.

12.00 **Is It Possible to Automatically Identify Who Has Forged My Signature?: Approaching to the Identification of a Static Signature *Forger***
Miguel Ferrer, Aythami Morales, Jesus Francisco Vargas, Ivan Lemos, and Monica Quintero.

12.20 **Towards Semi-Supervised Transcription of Handwritten Historical Weather Reports**
Jan Richarz, Szila'rd Vajda, and Gernot Fink.

Poster Sessions

Poster 1

(Tuesday, March 27th, 2012, 1.40pm - 3.10pm)

Chair: Abdel Belaid

(R# : Regular Papers, S# : Short Papers)

R1. A Part-Based Skew Estimation Method
Soma Shiraishi, Yaokai Feng, and Seiichi Uchida.

R3. Removal of Background Patterns and Signatures for Magnetic Ink Character Recognition of Checks
Keiichiro Shirai, Masashi Akita, Masayuki Okamoto, Kazuya Tanikawa, Takaaki Akiyama, and Tetsuji Sakaguchi.

R5. Lexicon Reduction Technique for Bangla Handwritten Word Recognition
Tapan Kumar Bhowmik, Utpal Roy, and Swapan K. Parui.

R7. Recognition of Similar Shaped Handwritten Characters Using Logistic Regression
Kinjal Basu, Radhika Nangia, and Umapada Pal.

R9. Capture and Dewarping of Page Spreads with a Handheld Compact 3D Camera
Michael Cutter and Patrick Chiu.

R11. Graph-Based Background Suppression for Scene Text Detection
Cunzhao Shi, Chunheng Wang, Baihua Xiao, and Yang Zhang.

R13. Writer Identification of Bangla Handwritings by Radon Transform Projection Profile
Samit Biswas and Amit Kumar Das.

R15. Voronoi-Based Zoning Design by Multi-Objective Genetic Optimization
Giuseppe Pirlo and Donato Impedovo.

R17. Real-Time Document Image Retrieval on A Smartphone
Kazutaka Takeda, Koichi Kise, and Masakazu Iwamura.

R19. Effect of Text/Non-Text Classification for Ink Search Employing String Recognition
Tomohisa Matsushita, Cheng Cheng, Yujiro Murata, Bilan Zhu, and Masaki Nakagawa.

R21. On The Enhancement and Binarization of Mobile Captured Vehicle Identification Number for an Embedded Solution
Tanushyam Chattopadhyay, Ujjwal Bhattacharya, and Bidyut B Chaudhuri.

R23. Optimization Analysis Based on a Breadth-First Exploration for A Structural Approach of Sketches Interpretation
Achraf Ghorbel, Eric Anquetil, and Aure'lie Lemaitre.

R25. OCD Dolores - Recovering Logical Structures for Dummies
Jean-Luc Bloechle, Maurizio Rigamonti, and Rolf Ingold.

R27. Effect Of Ground Truth on Image Binarization
Elisa H. Barney Smith and Chang An.

R29. How Important Is Global Structure for Characters?
Minoru Mori, Seiichi Uchida, and Hitoshi Sakano.

R31. A Compact Size Feature Set for the Off-Line Signature Verification Problem
Vu Nguyen and Michael Blumenstein.

R33. Toward Part-Based Document Image Decoding
Wang Song, Marcus Liwicki, and Seiichi Uchida.

R35. Impact of Word Segmentation Errors on Automatic Chinese Text Classification
Xi Luo, Wataru Ohyama, Tetsushi Wakabayashi, and Fumitaka Kimura.

R37. CRF-Based Bibliography Extraction from Reference Strings Focusing on Various Token Granularities
Manabu Ohta, Daiki Arauchi, Atsuhiro Takasu, and Jun Adachi.

R39. Off-Line Bangla Signature Verification
Srikanta Pal, Vu Nguyen, Michael Blumenstein, and Umapada Pal.

R41. Performance Evaluation of Mathematical Formula Identification
Xiaoyan Lin, Liangcai Gao, Zhi Tang, Xiaofan Lin, and Xuan Hu.

R43. Skew Estimation of Sparsely Inscribed Document Fragments
Markus Diem, Florian Kleber, and Robert Sablatnig.

R45. Word Image Retrieval Using Bag of Visual Words
Ravi Shekhar and C. V. Jawahar.

R47. A Fast Caption Detection Method for Low Quality Video Images
Tianyi Gui, Jun Sun, Satoshi Naoi, Yutaka Katsuyama, Minagawa Akihiro, and Hotta Yoshinobu.

R49. Word Slant Estimation Using Non-Horizontal Character Parts and Core-Region Information
Alexandros Papandreou and Basilis Gatos.

R51. Accent Detection in Handwriting Based on Writing Styles
Chetan Ramaiah, Utkarsh Porwal, and Venu Govindaraju.

R53. How Salient Is Scene Text?
Asif Shahab, Faisal Shafait, Andreas Dengel, and Seiichi Uchida.

R55. Ensemble of Biased Learners for Offline Arabic Handwriting Recognition
Utkarsh Porwal, Arti Shivram, Chetan Ramaiah, and Venu Govindaraju.

S1. Wearable Reading Assistant Device with Scene Text Locator for the Blind
Takahiro Sasaki, Akira Saito, and Hideaki Goto

S3. Semi-Supervised Learning Approach for Automatic Emotional Expression Extraction from eBook Text
Kosei Fume, Masaru Suzuki and Morita Masahiro

S5. Document Perceptual Quality Ground-Truth Creation
Vincent Rabeux, Nicholas Journet, Anne Vialard, and Jean-Philippe Domenger

S7. A Binarization Approach for Ukiyo-e Rakkan Extraction
Liang Li, Chulapon Panichkriangkrai, Chihiro Tsunoda and Kozaburo Hachimura

S9. A New Method of Character Strings Extraction Based on Blanket Binarization
Hiromi Yoshida, Naoki Tanaka, and Takashi Nagamatsu

S11. A Framework for Intelligent Navigation of Scanned Documents
Akash Dutta, Amit Kumar Das, and Manas Hira

S13. Digital Image Library Data Design Criteria
Anthony J. Maeder

Poster 2

(Thursday, March 29th, 2012, 1.40pm - 3.10pm)

Chair: Cheng-Lin Liu

(R# : Regular Papers, S# : Short Papers)

R2. Expanding Recognizable Distorted Characters Using Self-Corrective Recognition
Masaki Tsukada, Masakazu Iwamura and Koichi Kise.

R4. Recognizing Words in Scenes with A Head-Mounted Eye-Tracker
Takuya Kobayashi, Takumi Toyama, Faisal Shafait, Masakazu Iwamura, Koichi Kise and Andreas Dengel.

R6. Automatic Room Detection and Room Labeling From Architectural Floor Plans
Sheraz Ahmed, Marcus Liwicki, Markus Weber and Andreas Dengel.

R8. Collecting Handwritten Nom Character Patterns from Historical Document Pages
Truyen Van Phan, Bilan Zhu and Masaki Nakagawa.

R10. Extraction of Text Touching Graphics using SURF
Sheraz Ahmed, Marcus Liwicki and Andreas Dengel.

R12. Web Document Analysis Based on Visual Segmentation and Page Rendering
Cong Kinh Nguyen, Laurence Likforman-Sulem, Jean-Claude Moissinac, Claudie Faure and Je're'my Lardon.

R14. Similarity Evaluation and Shape Feature Extraction for Character Pattern Retrieval to Support Reading Historical Documents
Akihito Kitadai, Masaki Nakagawa, Hajime Baba, and Akihiro Watanabe.

R16. Seamless Integration of Handwriting Recognition into Pen-Enabled Displays for Fast User Interaction
Marcus Liwicki, Markus Weber, Tobias Zimmermann, and Andreas Dengel.

R18. Text Independent Writer Identification for Oriya Script
Sukalpa Chanda, Katrin Franke and Umapada Pal.

R20. Use of PGM for Form Recognition
Emilie Philippot, Abdel Belaid, and Yolande Belaid.

R22. Efficient Word Retrieval Using a Multiple Ranking Combination Scheme
Georgios Louloudis, Anastasios Kesidis and Basilis Gatos.

R24. Text Detection in Natural Scenes with Salient Region
Quan Meng, and *Yonghong Song.*

R26. OTCYMIST: Otsu-Canny Minimal Spanning Tree for Born-Digital Images
Deepak Kumar and A G Ramakrishnan.

R28. Improvements To Uncalibrated Feature-Based Stereo Matching for Document Images by Using Text-Line Segmentation
Muhammad Zeshan Afzal, Martin Kra mer, Syed Saqib Bukhari, Faisal Shafait, and Thomas Breuel.

R30. A Simple and Uniform Way to Introduce Complimentary Asynchronous Interaction Models in an Existing Document Analysis System
Joseph Chazalon, Bertrand Cou asnon, and Aurelie Lemaitre.

R32. OCR-Free Table of Contents Detection in Urdu Books
Adnan Ul-Hasan, Syed Saqib Bukhari, Faisal Shafait, and Thomas M. Breuel.

R34. Parsing Tables by Probabilistic Modeling of Perceptual Cues
Evgeniy Bart.

R36. Learning Domain-Specific Feature Descriptors for Document Images
Kandan Ramakrishnan and Evgeniy Bart.

R38. A Signature Verification Framework for Digital Pen Applications
Muhammad Imran Malik, Sheraz Ahmed, Andreas Dengel, and Marcus Liwicki.

R40. Panel and Speech Balloon Extraction from Comics Books
Anh Khoi Ngo Ho, Jean-Christophe Burie, and Jean-Marc Ogier.

R42. Linear Compression of Digital Ink via Point Selection
Vadim Mazalov and Stephen Watt.

R44. A Strategy for Automatically Extracting References from PDF Documents
Neide Alves, Rafael Lins, and Maria Lencastre.

R46. Evaluation of Features for Author Name Disambiguation Using Linear Support Vector Machines
Piotr Jan Dendek, Lukasz Bolikowski, and Michal Lukasik.

R48. Dataset, Ground-Truth And Performance Metrics for Table Detection Evaluation
Jing Fang, Xin Tao, Zhi Tang Ruiheng Qiu, and Ying Liu.

R50. A new Cursive Basic Word Database for Bank-check Processing Systems
Sebastiano Impedovo, Giuseppe Facchini, and Francesco Maurizio Mangini.

R52. An Empirical Evaluation on Online Chinese Handwriting Databases
Shusen Zhou, Qingcai Chen, Xiaolong Wang, Zou Chen, and Suqin Ao.

R54. Local Segmentation of Touching Characters Using Contour Based Shape Decomposition
Le Kang, David Doermann, Huaigu Cao, Rohit Prasad, and Prem Natarajan.

S2. Characters Extraction from Strings on a Document Image Using Handwriting Marks on Touch Screen
Shinnosuke Hattori, Shinji Tsuruoka, Haruhiko Takase, and Hiroharu Kawanaka

S4. A Proposal of Sheet Type Recognition Method and its Evaluation for Medical/Clinical Document Archiving Systems
Shunta Nakamura, Hiroharu Kawanaka Hiroki Hayashi, Haruhiko Takase, Shinji Tsuruoka, and Koji Yamamoto

S6. On-Line Cursive Handwriting Characterization Using TF-IDF Scores of Graphemes
Muriel Visani, Quang Anh Bui, and Sophea Prum

S8. Character Segmentation for Japanese Woodblock Printed Historical Books
Chulapong Panichkriangkrai, Liang Li, and Kozaburo Hachimura

S10. A New Baseline Estimation Method Applied to Arabic Word Recognition
Fouad Slimane, Slim Kanoun, Adel M. Alimi, Rolf Ingold, and Jean Hennebert

S12. From MIT SketchML to InkML or There and Back Again
Rui Hu and Stephen M. Watt

Demo Sessions

(Tuesday, March 27th, 2012, 1.40pm - 3.10pm) and

(Thursday, March 29th, 2012, 1.40pm - 3.10pm)

D1. The DAE Server Demo
Bart Lamiroy and Daniel Lopresti

D2. Koios++: A Query-Answering System for Handwritten Input
Marcus Liwicki, Bjorn Forcher, Philipp Jaeger and Andreas Dengel.

Tour information for accompanying persons

Some tour information for accompanying persons are given below. Delegates are requested to visit the respective websites for more details. Interested delegates will need to book directly through their websites.

More information on tours will be available at the registration desk.

Currumbin Wildlife Sanctuary
http://www.cws.org.au/

Paradise Country
http://paradisecountry.myfun.com.au/

Day tours from the Gold Coast
http://www.daytours.com.au/info/tours_departing_from/gold_coast/
O'Reilly's and Lamington National Park Ex GC – G33
Gold Coast & Natural Bridge – Ex GC – G27
Croc Express Ex GC – G7

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