

1st Int. Workshop and Tutorial on Automated Forensic Handwriting Analysis 2011

AFHA 2011

Preliminary Schedule

Day 1, Tutorial Session

Signature Verification - Forensic Examiners' Perception and Solutions for Off-Line and On-Line Signatures

Part 1: Morning Session – Forensic Handwriting Examination (0900-1240)

Introduction

Forensic handwriting examination in general

- How forensic experts make comparisons (similarities versus differences, subjectivity)
- Natural variation, Line quality, Quality versus quantity etc.
- What forensic experts need from the document analysis community
- What the document analysis community needs to understand about our work
- Existing systems and system problems
- Conclusion scales, Bayesian framework
- Strength of evidence

Tools for FHE

- Existing forensic systems: FISH, WANDA, CEDAR-FOX, FBI-system
- Searching a database of threatening letters

Signatures: Simulation & Disguise

- Example cases
- Problems with signatures (in depth)
- Proficiency tests, problems for FDEs
- Expert results on La Trobe test 2002 & 2006

Hands on Session – Real Case Work

Break – 60 minutes

Part 2: Afternoon Session – Automated Signature Verification (1340-1720)

History of automatic signature verification

- Online vs. offline
- Related work
- State-of-the-Art
- Comparison State-of-the-art verification techniques

Offline Signature Verification

- Data processing and recovery of temporal information
- Features
- Neural Networks,
- Experiments

Online Signature Verification

- Data processing
- Features
- Combined online and offline features
- Feature subset selection
- Gaussian Mixture Models and Support Vector Machines
- Example experiments

Plenary Discussion

Day 2, Workshop Session

Part 1: Morning Session – Paper Submissions about Emerging Approaches (0900-1240)

The papers will be presented in three sections in the morning session only.
25 minutes per paper: 15 minutes for talk, 10 minutes for discussion.

Section 1: General Aspects (0900-0950)

- 1.1 Non-English and Non-Latin Signature Verification Systems: A Survey
(Srikanta Pal, Michael Blumenstein and Umapada Pal)
- 1.2 The Effect of Training Data Selection and Sampling Time Intervals on
Signature Verification
(Erika Griechisch, Janos Csirik and Zoltan Gingl)

Section 2: Features (0950-1040)

- 2.1 Classification of Features into Strong and Weak Features for and
Intelligent Online Signature Verification System
(Saad Tariq, Saqib Sarwar and Waqar Hussain)
- 2.2 Forensic vs. Computing Writing Features as Seen by Rex, the Intuitive
Document Retriever
(Vlad Atanasiu)

Break – 20 minutes

Section 3: Automatic Verification (1100-1240)

3.1 Automated Off-Line Writer Verification Using Short Sentences and Grid Features

(Konstantinos Tselios, Elias Zois, Athanasios Nassiopoulos, Sotiris Karabetsos and George Economou)

3.2 Evaluation of Local and Global Features for Offline Signature Verification

(Muhammad Imran Malik, Marcus Liwicki and Andreas Dengel)

3.3 Static Signature Verification by Optical Flow Analysis

(Donato Impedovo and Giuseppe Pirlo)

3.4 A Co-training based Framework for Writer Identification in Offline Handwriting

(Utkarsh Porwal and Venu Govindaraju)

Break – 60 minutes

Part 2: Afternoon Session – Plenary Discussion (1340-1720)

Important discussion topics are determined

Sequential discussion on the selected topics

Conclusion and Remarks