Syllabus for ELEC9782
Advanced Forensic Voice Comparison and the Evaluation of Evidence

Document version of 12 December 2012

Course website: http://forensic.unsw.edu.au/ELEC9781.html then scroll down

Times
Semester 2, 2012. Mutually convenient times to be arranged between instructor and students. The number of contact hours will exceed 40.

Location
Rm 319, Electrical Engineering Building.

Instructor
Geoffrey Stewart Morrison
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Description
ELEC9781 “Forensic Voice Comparison and the Evaluation of Evidence” introduced the theory and practice of forensic voice comparison conducted within the new paradigm for the evaluation of forensic evidence. The first part of the course focussed on the new paradigm for the evaluation of forensic evidence and its application to forensic voice comparison. The second part of the course focussed on techniques
from automatic speaker recognition and their application to forensic voice comparison.

ELEC9782 “Advanced Forensic Voice Comparison and the Evaluation of Evidence” explores these topics in greater depth and breadth via extensive reading of primary literature and seminar discussions of selected important works. Whereas the readings in the first part of ELEC9781 were primarily authored by Morrison, the readings in ELEC9782 are primarily by other authors.

The course will provide students with an advanced understanding of the new paradigm for the evaluation of forensic evidence its application to forensic voice comparison, as well as related topics in the evaluation of forensic evidence.

Prerequisites
– Completion of ELEC9781 with a high grade, or equivalent skills and experience.
– Permission from the instructor.

Learning goals
The students will gain an advanced understanding of the new paradigm for the evaluation of forensic evidence and its application to forensic voice comparison, as well as related topics in the evaluation of forensic evidence.

Course structure
The topics listed below will be covered. Readings corresponding to each topic appear in the bibliography. Readings for discussion in seminars are asterisked in the bibliography. Other topics and readings may be added or substituted as the course progresses. Guest instructors will be invited to participate in seminars related to their topic. To allow for flexibility on spending more time on some material and adding additional material, the readings to be discussed during each seminar will be announced the week before.

TOPICS:
– The Lausanne Group
– The Madrid Group
– The BKA Group
– Legal admissibility (Guest instructors: Gary Edmond & Mehera San Roque, UNSW Law; Kristy Martire, UNSW Psychology)
– Rulings, reports, and position statements, guidelines, and standards
– Forensic science? (Guest instructor: Brynn Hibbert, UNSW Chemistry)
– Other evaluation of evidence
– Other statistical models (Guest instructors: James Curran, U Auckland Statistics; Joshua Abraham & Claude Roux, Centre for Forensic Science, University of Technology Sydney)
Teaching/learning approach
The teaching/learning approach for the course will consist primarily of reading and discussions based on the readings.

Assessment
Students are expected to complete the reading assignments and take an active part in discussions, including orally providing critical assessment of the papers discussed. 25% of the grade will be assigned on the basis of the instructor’s assessment of each student’s performance during the seminars.

Each student will write a paper of publishable quality related to a topic covered in the course. An outline of the paper including statement of the problem, literature review, and proposed methodology should be submitted to the instructor not later than half way through the course. A full draft of the paper should be submitted to the instructor not later than the last seminar of the course. The final version of the paper should be submitted to the instructor no later than one week before grades are due to be reported to the School. All submissions are to be pdfs e-mailed to the instructor. Quality of writing, e.g., clarity of organisation and clarity of expression, will be taken into account in determining the grade assigned to each paper. This assignment will count for 75% of the grade.

Registration
UNSW students taking the course for credit should register in ELEC9782 Special Topics in Electrical Engineering in Session 2 of 2012.

Credits
The course has 6 units of credit (equivalent to an expected workload is 10–12 hours per week throughout a 12 week session).

Academic honesty and plagiarism
Plagiarism is the unacknowledged use of others peoples work, including the copying of assignment works and laboratory results form other students. Plagiarism is considered a serious offence by the University and severe penalties may apply. For more information on plagiarism, please refer to: http://www.lc.unsw.edu.au/plagiarism

Continual course improvement
Students are advised that the course is under constant revision in order to improve the learning outcomes of its students. Please forward any feedback on the course to the course instructors.
Administrative matters

On issues and procedures regarding such matters as special needs, equity and diversity, occupational health and safety, enrolment, rights and general expectation of students, please refer to the School policies, see: http://scoff.ee.unsw.edu.au/

Graduate attributes

The course delivery methods and course content address a number of the UNSW graduate attributes, see: http://learningandteaching.unsw.edu.au/content/userDocs/grad_attributes.pdf

Bibliography

* papers subject to detailed discussion in class
† papers forming the basis of a student presentation

– The Lausanne Group


– The Madrid Group


– The BKA Group


Becker, Broß, Meier (2011) The effect of MP3 compression on automatic voice comparison

Becker, Jessen, Grigoras (2008) Forensic speaker verification using formant features and Gaussian mixture models

Becker, Jessen, Grigoras (2009) Speaker verification based on formants using Gaussian mixture models
Jessen (2008) Forensic phonetics


– Legal admissibility


– Rulings, reports, and position statements, guidelines, and standards


   http://www.nap.edu/catalog.php?record_id=12589

   doi:10.1016/j.scijus.2009.07.004

R v T (2010) EWCA Crim 2439


   doi:10.1016/j.scijus.2011.03.005


Standards Australia Draft Standard DR AS 5388.3 Forensic analysis - Part 3- Interpretation
Responses to Standards Australia Draft Standard DR AS 5388.3 Forensic analysis - Part 3- Interpretation:
- Morrison et al.
- Aitken
- Balding
- Lucy
- Martire & Kemp
- Rose & Selby
- Sjerps

– Forensic science?


– Other evaluation of evidence


– Other statistical models


Aitken, Lucy (2004a,b) Evaluation of trace evidence in the form of multivariate data


