DROR COHEN

CURRICULUM VITAE

Date of Birth: 24 November 1985

Residency Status: Australian citizen

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Objectives

- To undertake PhD studies investigating Integrated Information as a measure of the level of consciousness under the primary supervision of A/Prof Naotsugu Tsuchiya

- To conduct world class research and publish in top tier journals

- To initiate local and international research collaborations

- To expand my knowledge on the psychology, philosophy and science of consciousness

First authored Conference Proceedings

1. *The neuronal mechanisms of Steady State Visually Evoked Potential* (SSVEP) *studied in the fly brains with multi-contact electrodes,* D. Cohen, A. C. Paulk, B. V. Swinderen and N. Tsuchiya

   Presented at the Australasian Cognitive Neuroscience Conference (ACNC) in Nov 2013. Published online in Frontiers in Human Neuroscience

2. *Investigating Parallel Implementations of CP-Beam-ACO,* D. Cohen, D. R. Thiruvady and A. T. Ernst

   Presented at the Australian Society for Operations Research conference (ASOR), Adelaide, Dec 2013

3. *Measuring the level of consciousness in flies with integrated information,* D. Cohen, A. C. Paulk, M. Oizumi, P. Shaw, B. V. Swinderen and N. Tsuchiya, 2013

   Presented at the Association for the Scientific Studies of Consciousness, San Diego, July 2013

4. *The Elastic Net as a Visual Category Representation,* D. Cohen and A. Paplinski, 2012

   Presented at the International Conference on Neural Information Processing, Doha *2012.* Published in the Springer Lecture Notes in Computer Science series (LNCS)

5. *A comparative evaluation of the Elastic Net and Generative Topographic Map for the formation of Ocular Dominance stripes,* D. Cohen and A. Paplinski, 2012

   Presented at the World Congress on Computational Intelligence, Brisbane 2012. Published in the IEEE International Joint Conference on Neural Networks

Education

Aug 2013 - Current

Monash University   School of Psychology and Psychiatry   Clayton Campus

Doctor of Philosophy

- Research proposal title:

  Integrated information as a measure of the level of consciousness

  See attached research proposal for further details

- Resulting first author conference presentations - see #1 in 'First authored Conference Proceedings' above

Jul 2011 – Oct 2012

Monash University   Faculty of Information Technology   Clayton Campus

Masters by Research in Information Technology (Hons)

- Thesis title:

  Topography preserving Gaussian Mixture Models as Cortical Maps: Applications of the Generative Topographic Mapping and the Elastic Net

- Two full conference proceedings papers published in IEEE and Springer Lecture Notes on Computer Science (LNCS) (see #4 and #5 'First authored Conference Proceedings' above)

Mar 2004 – Jun 2009

University of Western Australia (UWA)   School of Mechanical Engineering

Bachelor of Engineering (Honours)/Bachelor of Science

- Engineering major: Mechatronics Engineering (Honours)

  - Final Year Thesis*: A SIFT-SVM Based Method for the Recognition of Playing Cards*. Completed with a High Distinction

- Science major: Physics

Apr 2013 – Jun 2013   *Coursera (University of Washington)*

Online course: Computational Neuroscience

- Successfully completed the eight week Computational Neuroscience course and obtained the accomplishment certificate

- Course average 91.3%

Employment History

Nov 2012 – Current

Monash University   School of Psychology and Psychiatry   Clayton Campus

Researcher, empirical investigation of Integrated Information Theory

- Designing and evaluating methods for the computation of integrated information in neuronal data including EEG, ECoG, fMRI and linear array recordings in flies

- Advanced data analysis including time-series, frequency domain and time-frequency, machine learning techniques (decoding)

- Simulations of neural networks for the investigation of integrated information properties

- Supervision of undergraduate research student Jun-Aug 2013 (Nicholas David Husek)

- Resulting first author conference presentations – see #3 'First authored Conference Proceedings' above

Jul 2012 – Nov 2012

Monash University   Faculty of Information Technology   Clayton Campus

Research Assistant, Parallelising hybrid meta-heuristic algorithms for operations optimisation

- Parallelising and evaluating the Ant Colony Optimisation - Beam Search - Constraint Programming (ACO-BEAM-CP) algorithm on three benchmark problems

- A Monash FIT – CSIRO collaboration

- Modification and parallelisation of C++ code using OpenMP

- Execution of large scale experiments on the Monash SunGrid via the Nimrod portal

- Resulting first author conference presentations - see #2 in 'First authored Conference Proceedings' above

- Currently in final revision stages of a journal paper to be submitted to the Institute for Operations Research and the Management Sciences (INFORMS) Journal of Computing. Submission expected early November

Mar 2012 – Jul 2012

Monash University   Faculty of Information Technology   Clayton Campus

FIT1029, Algorithmic Problem Solving

- FIT1029 is an introductory unit designed to introduce students to algorithm design and analysis. The unit is taught and examined in pseudo code

- Tutor for 3x2hr tutorials per week

- Revising and updating solutions to tutorial questions

- Assignments, tests and exams marking

- Dealing with plagiarism issues as per the university and unit guidelines

Jul 2011 – Nov 2011

Monash University   Faculty of Engineering   Clayton Campus

ENG1060, Computing for Engineers

- ENG1060 is an introductory programming unit designed to give engineers hands on experience in data analysis and programming. The unit is taught using the Matlab programming language

- Lab demonstrator for 3x3hrs labs per week

- Preparation and delivery of material presentation at the commencement of each lab

- Marking labs and assignments

- Dealing with plagiarism issues as per the university and unit guidelines

Oct 2010 – Jun 2011

BHP Billiton Stainless Steel Materials   Mt Keith Nickel Mine, Asset Integrity

Project Engineer

- Developing plans and strategies for Asset Integrity

- Project Engineer concrete remediation for 2010-2011 financial year (800k)

- Project Engineer piping Non-Destructive Testing survey for 2010-2011 financial year (250k)

- 1SAP maintainer

- BHPB Graduate Program placement

- 8 on/6 off Fly In Fly Out roster

Feb 2010-Oct 2011

LiteStart Gate Automation   Roleystone, WA

Junior Engineer

Apr 2008 – Jul 2009

Bechtel, WorleyParsons   East Perth, WA

Worsley Alumina Refinery Efficiency and Growth Project (Instrumentation)

Dec 2007 – Feb 2008

WorleyParsons   Perth, WA

Work Experience: BP Kwinana Refinery Reliability and Yield Improvement (Mechanical)

Dec 2005 – Mar 2006

Total Marine Technologies   Bibra Lake, WA

Work Experience: Research and Development

Skills

- General computer literacy

    o Proficiency in the use of Windows, Linux and Mac OS

    o Experienced with Microsoft Office, Libre Office and Open Office:
    Word, Excel (Including Macros implementation), Access, MS Project,
    Power Point, Outlook

- Programming languages

    o Matlab (Parallel Computing toolbox, EEGLab, Chronux), LabView
    (advanced), C (intermediate), Java (intermediate), C++ (intermediate
    including Multi-threading using OpenMP), VB (intermediate), Latex
    (advanced), and Ladder Programming (PLC) (intermediate)

    o Parallel Computing toolbox (Matlab), EEGLab (Matlab), Chronux
    (Maltab)

- Software suits

    o Integrated Development Environments: NetBeans, Eclipse

    o SolidWorks (Intermediate), AutoCad (Beginner), PlantView
    (Beginner), Smart Plant Instrumentation (Intermediate) and SAP
    (Intermediate), Lyx (Latex front end, intermediate),

    o Subversion SVN, Git, High Performance Computing using MASSIVE
    (www.massive.org.au) and Nimrod
    (http://www.messagelab.monash.edu.au/Nimrod)

- Languages

    o English (Expert), Hebrew (Expert)

Personal Interests and Hobbies

- Participating in sports of all kinds including running, skating, touch-rugby,
surfing, diving and most other water sports

- Arts including music (drummer) and literature

- Traveling - anywhere

References

References available upon request