andersen.ang@soton.ac.uk website: angms.science

Research Mathematical programming · continuous nonsmooth nonconvex structural optimisation · 0-1 optimization

Nonnegative Matrix Factorization · algebra · geometry · numerical analysis **Machine learning applications** · source separation · imaging · bioinformatics

Publication Pre-print 5, Journal 5, Conference 13, cited-by 330, h-index 8, i10-index 7, Erdos number 4

& education Lecturer (assistant professor equivalent in the US system)

University of Southampton, UK

(Jan. 2023 - now)

2023 - now

University of Waterloo, Canada 2021 - 2023

Postdoc, supervisors: Stephen Vavasis & Hans De Sterck (Feb. 2021 - Jan. 2023)

Université de Mons, Belgium

2017 - 2021

Ph.D, Applied mathematics, supervisor: Nicolas Gillis (Feb. 2017 - Oct. 2020)

Thesis: "Nonnegative Matrix and Tensor Factorizations: Models, Algorithms and Applications"

University of Hong Kong, Hong Kong

2011 - 2016

M.Phil (Biomedical Engineering), supervisors: Y.S. Hung and Z. Zhang (Sep. 2014 - Sep. 2016)

Thesis: "Non-negative Matrix and Tensor Factorization with Applications to Feature Extractions"

B.Eng (Electronic and Communications), supervisors: Y.S. Hung (Sep. 2011 - Aug. 2014)

Thesis: "Single Channel Hybrid EEG/EOG-based Brain Computer Interface"

Scholarships & awards

Experience

Fields Postdoctoral Fellowship, Fields Institute

(Jul. 2021)

Travel Award, SIAM OP20 (Apr. 2020) *conference cancelled due to pandemic

Poster hunter award, EURASIP Tensor-Based Signal Processing, KU Leuven, Belgium (Aug. 2018)

Travel Award, XMaths workshop, University deli Studi di Bari Aldo Moro, Italy (Dec. 2017)

Travel Award, ALOP Autumn School, Universitat Trier, Germany (Jun. 2017)

PhD scholarship, European Research Council (Feb. 2017 - Jan. 2021)

Outstanding Teaching Assistant Award, EEE, the University of Hong Kong (Sep. 2016)

Champion, IEEE Computational Intelligence (HK) Postgraduate Paper Contest (Aug. 2016)

Postgraduate Scholarships, the University of Hong Kong (Sep. 2014 - Aug. 2016)

Best Teaching Assistant Award, EEE, the University of Hong Kong (Sep. 2015)

Talent Development Scholarship, Hong Kong Government (Apr. 2015)

Champion, IEEE Computational Intelligence (HK) Final Year Project Competition (Aug. 2014)

Champion, IEEE EMBS HK-Macau Joint Chapter Student Paper Competition (Aug. 2014)

EE72 K.M. Yung Scholarship, EEE, the University of Hong Kong (Oct. 2013)

Outstanding Performance Certificates, EEE, University of Hong Kong (Aug. 2012)

Research Assistantships and Teaching Assistantships, University of Hong Kong

(numerous times)

Teaching Fellow of the Higher Education Academy (FHEA), Advanced HE, UK

31-Jan-2024

University of Southampton, Southampton, UK

2023 - now

Module leader & instructor AICE1004 Math for Artificial Intelligence & Computer Engineering (24Autumn)

Course instructor COMP1215 Foundations of Computer Science

(23Autumn)

University of Waterloo, Waterloo, Canada

2021 - **2022** (21Spring, 22Spring)

Course instructor CO327 Deterministic OR Models

2021 Overall course evaluation score 3.99/5

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Université de Mons, Mons, Belgium

Guest lecturer MARO201 Advanced Optimization, Master level course

2018 - 2020

(18Fall, 19Fall, 20Fall)

University of Hong Kong, Hong Kong

Head Teaching Assistant

2012 - 2016

- ENGG1012 Enhancement Mathematics
- (12Summer, 14Fall) • ENGG1002/1111 Computer Programming and Applications (12Fall,13Spring,15 Spring)
- MEDE2203/2500 Biomedical Signals and Linear Systems

(13Fall, 14 Fall, 15Fall, 16Fall)

• ELEC2201/3241 Signals and Linear Systems

(14Fall)

• ELEC3245/2205 Control and Instrumentation

(14Fall, 15Fall, 16Fall)

• ELEC4247/3227 Information Theory and Coding

(14Fall, 15Fall)

CCST9003 Everyday Computing and the Internet

(16Fall)

Course design assistant

2015 - 2016

HKU03x Humanity and Nature in Chinese Thought, A MOOC on ancient Chinese Philosophy, extremely well received with a by-product - a conference paper on MOOC.

Certificate of Teaching and Learning in Higher Education (Jan. 2015)

Centre for the Enhancement of Teaching and Learning, University of Hong Kong

Professional experience

Conference session chair: SIAM (CSE21, LA21, MDS22)

Local organization committee: 2019 Workshop on Low-Rank Models and Applications (LRMA)

Number of talks given in conference / seminar / workshop: 35+

Selected presentation: NeurIPS21, SIAM (MDS22, LA21, CSE21, LA18), ICCOPT19, ISMP18

Paper reviewer

- SIAM Journal on Optimization
- Computational Optimisation and Applications
- Machine Learning
- Journal of Scientific Computing
- PLOS ONE
- Chaos, Solitons & Fractals
- IEEE journals: Cybern., TIT, TSP, COMMUN LETT, TCAS II
- Conferences: IEEE ICASSP 2020-2022, IEEE DSP 2015-2017

Other experience

Research Assistantships in HKU

2013 - 2016

• Technology-Enriched Learning Initiative: MOOC development.

- (Sep. Dec. 2016)
- School of Nursing: Machine learning on cardiovascular risk assessment.
- (Sep. 2014 Aug. 2015)

• Control System Lab, EEE

(May. - Aug. 2014)

Neural Engineering Lab, EEE

(Nov. - Dec. 2013)

Language

- English(professional, IELTS 7.5: 2013,2022), Cantonese(native), Mandarin(good), French(beginner)
- MATLAB(professional), LATEX(professional), Markdown (professional)

Referees

• Stephene A. Vavasis vavasis@uwaterloo.ca

(Postdoc supervisor)

• Hans De Sterck hans.desterck@uwaterloo.ca

(Postdoc supervisor)

• Nicolas Gillis nicolas.gillis@umons.ac.be

(PhD supervisor)

End of CV (version: January 31, 2024)