2-page Academic CV of Andersen Ang

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Research

Mathematical programming · continuous nonsmooth nonconvex structural optimisation · submodularity
Nonnegative Matrix Factorization · algebra · geometry · numerical analysis
Machine learning applications · source separation · imaging · bioinformatics

Publication

Pre-print 5, Journal 5, Conference 13, cited-by 348, h-index 8, i10-index 6, Erdos number 4

Experience & education

University of Southampton, UK **2023 - now**
Lecturer (assistant professor equivalent in the US system) (Jan. 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

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 COMP6BBB Optimisation for Machine Learning (25Spring)
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**
Course instructor CO327 Deterministic OR Models (21Spring, 22Spring)
2021 Overall course evaluation score 3.99/5

Université de Mons, Mons, Belgium **2018 - 2020**
Guest lecturer MARO201 Advanced Optimization (for master students) (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
- Applied Mathematics and Computation
- 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: April 2, 2024)