

## RESEARCH INTEREST

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- **Theory:** Matrix/Tensor Factorizations, and related topics in Non-linear Optimization, Numerical Linear Algebra
- **Applied:** Applications in Machine Learning, Signal Processing, Brain Computer Interface

## EDUCATION

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- **Faculté Polytechnique, Université de Mons** Belgium  
*PhD student* Feb. 2017 – Now
- **University of Hong Kong** Hong Kong  
*Master of Philosophy in Biomedical Engineering* Sep. 2014 – Aug. 2016
- **University of Hong Kong** Hong Kong  
*Bachelor of Engineering in Electronic and Communications Engineering* Sep. 2011 – Jun. 2014

## RESEARCH EXPERIENCE

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- **University of Hong Kong** Hong Kong  
*Research Assistants* 2013 - 2016
  - **Technology-Enriched Learning Initiative:** On MOOC development. Sep. 2016 - Dec. 2016
  - **School of Nursing, Li Ka Shing Faculty of Medicine:** On machine learning research on cardiovascular risk assessment. Sep. 2014 - Aug. 2015
  - **Control System Lab, EEE:** May. 2014 - Aug. 2014
  - **Neural Engineering Lab, EEE :** Nov. 2013 - Dec. 2013
  - **Electromagnetics Lab, EEE:** Nov. 2013
  - **Neural Engineering Lab, Dept. of Orthopaedics and Traumatology:** Oct. 2013

## AWARDS

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- **PhD Scholarships** Feb. 2017 – Now  
*European Research Council*
- **Outstanding Teaching Assistant Award** Sep. 2016  
*EEE, University of Hong Kong*
- **Champion** Aug. 2016  
*IEEE Computational Intelligence HK Chapter Graduate Student Paper Competition 2016*
- **Postgraduate Scholarships** Sep. 2014 – Aug. 2016  
*University of Hong Kong*
- **Best Teaching Assistant Award** Sep. 2015  
*EEE, University of Hong Kong*
- **Talent Development Scholarship** Apr. 2015  
*Hong Kong Government*
- **Champion** Aug. 2014  
*IEEE Computational Intelligence HK Chapter Final Year Project competition 2014*
- **Champion** Aug. 2014  
*IEEE EMBS HK-Macau Joint Chapter Student Paper Competition 2014*
- **EE72 K.M.Yung Scholarships** Oct. 2013  
*EEE, University of Hong Kong*
- **Outstanding Performance Certificates** Aug. 2012  
*EEE, University of Hong Kong*
- **Research Assistantships, Teaching Assistantships** numerous times  
*EEE, University of Hong Kong*

## TEACHING EXPERIENCE

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- **University of Hong Kong** Hong Kong  
*Course design assistant* *Fall. 2015*
  - **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.
- **University of Hong Kong** Hong Kong  
*Head teaching assistant* *2012 – 2016, numerous times*
  - **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

## CERTIFICATES

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- **Certificate of Teaching and Learning in Higher Education** Jan. 2015  
*Centre for the Enhancement of Teaching and Learning, University of Hong Kong*
- **Overall 7.5 in IELTS** Nov. 2013  
*IELTS International English Language Test System*

## WORKING EXPERIENCE

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- **OblongDATA.IO** Hong Kong  
*Computer Scientist* *Since 2016*
  - **Fall detection system:** Joint work with Cyberport HK
  - **Question bank database:** Joint work with the Department of Mathematics, HKU
- **NeuroSky(Hong Kong)** Hong Kong  
*Collaborator* *Sep. 2013 - Apr. 2015*
  - **Brain computer interface:** Development of single channel BCI
- **Geotechnical Engineering Office, CEDD, HKSAR Government** Hong Kong  
*Summer Intern* *Jun. 2013 - Aug. 2013*
  - **Image Database System:** UI enhancement for slope stability monitoring and landslide prevention

## PROFESSIONAL ACTIVITIES / SERVICES

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- **Conference technical committee / reviewer**  
*IEEE DSP (2015–2017)*
- **Journal reviewer**  
*IEEE Transactions on Circuit and System II (2016, 2018)*
- **Member**  
*SIAM, IEEE, IMA*

## GRANT

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- **HKU CEDARS 81 Inclusion Fund** Sep. 2013 - Jun. 2014  
*HKD 10000*

## LANGUAGE

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- Human
  - Native : Chinese (Cantonese and Mandarin)
  - Professional : English (IELTS 7.5)
  - Beginner : French
- Computer
  - Native : MATLAB, LaTeX, Windows OS
  - Professional : C++, Java, VHDL, JMP, LabView, Mac OS
  - Beginner : Julia, Javascript, Linux OS

## HOBBY AND EXTRA CURRICULAR

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- Self-taught multi-instrumentalist on woodwind and brass. Tremendous amount of performance experience, gigs in Hong Kong, Japan, Italy and Belgium.
- Admin and arranger of the Hong Kong Doujin Philharmonia, Hong Kong
- Former leader of the Kong U Big Band Jazz Orchestra, HKU, Hong Kong
- Former bass trombonist of the Saturday Night Jazz Orchestra, Hong Kong

## REFEREES

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- Prof. Nicolas Gillis, Université de Mons, nicolas.gillis@umons.ac.be
- Prof. Ricky Y. K. Kwok, HKU EEE and Associate Vice-President, Ricky.Kwok@hku.hk

## PUBLICATIONS

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### Preprints / under review

1. Valentin Leplat, **Andersen Man Shun Ang**, Nicolas Gillis, "Minimum-Volume Rank-deficient Non-negative Matrix Factorizations ", for ICASSP 2019

### Journal

1. **Andersen Man Shun Ang**, Nicolas Gillis, "Accelerating Nonnegative Matrix Factorization Algorithms using Extrapolation", to appear in Neural Computation, (arXiv <https://arxiv.org/abs/1805.06604>)
2. J.F.Wu, **A. M. S. Ang**, K.M. Tsui, H.C. Wu, Y.S.Hung, Y. Hu, J.N.F. Mak, S.C. Chan and Z.G. Zhang, "Efficient Implementation and Design of A New Single-Channel Electrooculography- based Human-Machine Interface System", IEEE TCAS II, vol. 62, issues, 2, pp. 179-183, Feb, 2015

### Thesis

1. **A.M.S. Ang**, "Non-negative Matrix and Tensor Factorization with Applications to Feature Extractions", **M.Phil Thesis**, University of Hong Kong, Aug, 2016
2. **A.M.S. Ang**, "Single Channel Hybrid EEG/EOG-based Brain Computer Interface", **BEng Thesis**, University of Hong Kong, Jun, 2014

### Conference and paper competitions

1. **Andersen M.S. Ang**, Nicolas Gillis, "Volume regularized Non-negative Matrix Factorizations", accepted in IEEE WHISPERS 2018, to be appear in proceedings and IEEE Xplore
2. C.U. Lei, Y.C. Au Yeung, T.T.O. Kwok, R. Lau and **A. Ang**, "Leveraging Videos and Forums for Small-class Learning Experience in a MOOC Environment", IEEE TALE 2016, Bangkok, Thailand, Dec 7-9, 2016
3. **A.M.S. Ang**, Y.S. Hung and Z.G. Zhang, "A Non-negative Tensor Factorization Approach to Feature Extraction for Image Analysis", IEEE DSP 2016, Beijing, Oct 16-18, 2016
4. **A.M.S. Ang**, Z.G. Zhang, Y.S. Hung and J.N. F. Mak, "A User-friendly Wearable Single-channel EOG-based Human-Computer Interface for Cursor Control", IEEE EMBS NER'15, Montpellier, France, Apr, 2015

## SELECTED PRESENTATIONS

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- **Oral presentation**  
*EOS SeLMA seminar* Oct. 2018  
*KU Leiven , Leuven, Belgium*
- **Oral presentation**  
*ISMP 2018* July. 2018  
*Bordeaux, France*
- **Oral presentation**  
*SIAM-ALA18)* May. 2018  
*HKBU, Hong Kong*
- **Guest speaker of common core course**  
*CCST9003 Everyday computing and the internet* 19-Nov. 2016  
*HKU, Hong Kong*

— End of CV (Last update 2018.10.16) —