LUCAS RENCKER

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http://www.cvssp.org/Personal/LucasRencker/ https://github.com/LucasRr

EXPERIENCE

PhD candidate/Marie Curie Early-Stage Researcher   October 15 - (exp.) October 18
Centre for Vision, Speech and Signal Processing (CVSSP), University of Surrey, Guidford, UK
Machine Sensing Training Network (MacSeNet) - Marie Skłodowska-Curie Inovative Training Network
Research topic: Sparse decomposition and dictionary learning for signal reconstruction
Research interests: sparse decomposition, dictionary learning, matrix factorization, statistical learning
& machine learning, optimization, linear and nonlinear inverse problems (denoising, inpainting, declipping, dequantization)
Supervisors: Dr. Wenwu Wang, Prof. Mark Plumbley

Visiting researcher   May 16 - July 18
Cedar Audio Ltd, Cambridge, UK
Visiting researcher (3 days/month), as part of an industrial placement
Real life applications of signal processing techniques in the industry
Research topic: Dictionary learning for digital audio restoration
Supervisor: Dave Betts

Visiting researcher   April - July 17
SIERRA-team, INRIA, Paris, France
Research topic: Dictionary learning for signal declipping
Supervisor: Dr. Francis Bach

Research student   April - September 15
Spatial signal processing group, International Audiolabs, Fraunhofer IIS, Erlangen, Germany
Research topic: Impulsive noise detection and reduction for speech enhancement (Masters thesis)
Supervisor: Prof. Emanuël Habets

Student Intern   September - January 13
Acoustics and Mechanical engineering lab, Ecole Centrale Marseille, France
Cross-disciplinary group student project (co-supervised by Schlumberger Ltd.)
Developed a 3D tracking algorithm from a high-frequency camera (in MATLAB), to track the movement
of a spinning drill pipe

Student Intern   August 13
Electrical and Electronics lab, SGS CTS, Aix-en-Provence, France
Performed quality control on consumer electrical and electronic devices

EDUCATION

Masters degree in Signal and Image Processing   September 15
Ecole Centrale Marseille, France
Advanced courses in signal and image processing
Courses: statistical signal processing, information theory, estimation theory, inverse problems, medical
imaging, optical imaging

Masters of Engineering   September 15
Ecole Centrale Marseille, France
General engineering education (advanced mathematics, electrical/electronic engineering, computer science, management)

Academic semester in Telecommunication Engineering ⟨right⟩March - July 14
Politecnico di Torino, Turin, Italy
Information & coding theory, queueing theory, radar & remote sensing

Classe préparatoire aux grandes écoles ⟨right⟩September 10 - August 12
Institut Sainte-Marie, Antony, France
2-year intensive maths and physics course, preparing for competitive national exams

SKILLS

Programming: MATLAB, Python (advanced level), C/C++ (basic level)
Software: Bash, Git, HTML, CSS, LaTeX
Languages: English (fluent), French (mother tongue), German, Italian (basic level)

TEACHING

Year 1 Mathematics for Engineering (one-to-one support) ⟨right⟩Spring 18

AWARDS

2018 LVA/ICA Best Student Paper Award, for our paper "Consistent dictionary learning for signal declipping"

CVSSP outstanding 1st year confirmation award (2016)

PUBLICATIONS

Sparse Recovery and Dictionary Learning from Nonlinear Compressive Measurements,
L. Rencker, F. Bach, W. Wang and M. D. Plumbley
Submitted to IEEE Transactions on Signal Processing (2018)

Consistent dictionary learning for signal declipping (*Best Student Paper Award*),
L. Rencker, F. Bach, W. Wang and M. D. Plumbley
2018 Latent Variable Analysis/Independent Component Analysis (LVA/ICA) conference

A greedy algorithm with learned statistics for sparse signal reconstruction,
L. Rencker, W. Wang and M. D. Plumbley
IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) (2017)

Multivariate iterative hard thresholding for sparse decomposition with flexible sparsity patterns,
L. Rencker, W. Wang and M. D. Plumbley
25th European Signal Processing Conference (EUSIPCO) (2017)

INTERESTS

Music, photography, cinema, climbing