Javier CEBEIRO

javiercebeiro@yahoo.com.ar
Birth-date:
29/12/1982

Quilmes B1878KLD
Buenos Aires, Argentina

EDUCATION

Ph D in Engineering. Signal and Image Processing (2013-2017).
Universidad Tecnológica Nacional, Facultad Regional de Buenos Aires, Argentina.

Biomedical Engineer (2003-2009).
Universidad Favaloro, Facultad de Ingeniería, Ciencias Exactas y Naturales.
Buenos Aires, Argentina.

PROFILES

ORCID iD 0000-0003-2070-4016
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FOREIGN LANGUAGES

English: First Certificate Examination (B2), ESOL, University of Cambridge, 2011.
French: DELF (B1) (Diplôme d'Études en Langue Française, Ministère de l'Éducation Nationale, de l'Enseignement supérieur et de la Recherche, République Française), 2015.

EMPLOYMENT

Universidad Nacional de San Martín, School of Science (ECyT-UNSAM).
Lecturer (Part-time, since 2012).Teaching experience: Image Processing and Signal Processing, Mathematics and Introduction to Calculus.
At School of Science, Universidad Nacional de San Martín (ECyT-UNSAM).

CONICET Postdoctoral grant (2017-2020)
CONICET Ph D grant (2013-2017)

National Paediatric Hospital, Prof. Dr. Juan P. Garrahan SAMIC:
Clinical Engineering Department.
Period: 2008- 2012.

COMPUTING SKILLS

Programming Languages: Python, Matlab, C, C++, Borland Builder C++, Assembler, Simulink, R Language, Visual Basic, QT C++ for Linux, Mac and Windows. Operating Systems: DOS, Windows and Linux. Microsoft Office and Open Office. Libraires: Tensorflow, Scikit Learn, Pandas.

SCIENTIFIC STAYS

Invited researcher. Institut d'Études Avancées, Cergy-Paris University, France. Period: July 2018.

A one year stay at Equipes de Traitement de l'Information et Systèmes (ETIS), ENSEA/ Université de Cergy-Pontoise/UMR CNRS 8051, F-95014 Cergy-Pontoise Cedex, France. Period: March-December 2015. Supervisor: Mai K. Nguyen.

Three one-month visits at ETIS. Period: July 2014, 2016 and 2019.

COURSES AND SEMINARS

Coursera: Neural Networks and Deep Learning; Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization; Structuring Machine Learning Projects; Convolutional Neural Networks; Sequence Models; AI for Medical Diagnosis.

12th IEEE EMBS International Summer School on Biomedical Imaging Saint-Jacut de la Mer, France, 16-24 June, 2016.
Short Course on Radar: RPIC-INVAP, Bariloche, September 2013.
Introduction to finite element method: IV MACI, Buenos Aires, May de 2013.
Technical Service Training on Aysis Anaesthesia Carestation: Solar 8000i, General Electric, August 3-7, 2009.
Workshop IEEE/EMBS: Facultad de Medicina, Universidad Favaloro, Buenos Aires, Argentina. 2006.

OTHER ACTIVITIES

Reviewer Fellows-in-Residence, CY Advanced Studies, CY Cergy-Paris Université, March-April 2021.
12th IEEE EMBS International Summer School on Biomedical Imaging Saint-Jacut de la Mer, France, 16-24 June, 2016.
Evaluation Committee in master degree project. Digital system for the diagnosis of the malignant hyperthermia syndrome, Facultad de Ingeniería, Universidad Favaloro, December 2011.
Technical Committee: Standard IRAM 4220-2-24: Requirements for infusion pumps, Instituto Argentino de Normalización y Certificación, May 2011.

PUBLICATIONS

Journal Papers

An analytic inversion formular for a Radon transform on a class of cones.
C. Tarpau, **J. Cebeiro** , **M. K. Nguyen**, Geneviève Rollet and Laurent Dumas. EURA SIAN JOURNAL OF MATHEMATICAL AND COMPUTER APPLICATIONS (EJMCA, ISSN 2306–6172), Vol. 10, Issue 3, pp.73-83, 2022.

Analytical reconstruction formula with efficient implementation for a modality of Compton scattering tomography with translational geometry.
C. Tarpau, **J. Cebeiro**, G. Rollet, **M. Nguyen**, L. Dumas. Inverse Problems and Imaging, AIMS American Institute of Mathematical Sciences, 2022, 16 (4), pp.771. ⟨10.3934/ipi.2021075⟩, hal-03780046

On a three-dimensional Compton scattering tomography system with fixed source ;
J. Cebeiro, C. Tarpau, M. A. Morvidone, D. Rubio, **M. K. Nguyen**; Inverse Problems; Vol.37, 054001, (23 pp), 2021.

Analytic inversion of a Radon transform on double circular arcs with applications in Compton Scattering Tomography ;
C. Tarpau, **J. Cebeiro**, **M. K. Nguyen**, G. Rollet, M. A. Morvidone; IEEE Transactions on Computational Imaging; Acceptation date: May 2020.

A new concept of Compton Scattering tomography and the development of the corresponding circular Radon transform ;
C. Tarpau, **J. Cebeiro**, **M. K. Nguyen**, M. A. Morvidone; IEEE Transactions on Radiation and Plasma Medical Sciences; 2019.

New 'improved' Compton scatter tomography modality for investigative imaging of one-sided large objects;
J. Cebeiro, **M. K. Nguyen**, M. A. Morvidone, A. Noumowé; Inverse Problems in Science and Engineering; Londres: Taylor and Francis Ltd. 2017; Vol. 25; Issue 11; pp. 1676-1696; ISSN 1741-5977.

Back-projection inversion of a conical Radon transform;
J. Cebeiro, M. A. Morvidone, **M. K. Nguyen**; Inverse Problems in Science and Engineering; Londres: Taylor and Francis Ltd. 2015; Vol. 24; Issue 2; pp. 328-352; ISSN 1741-5977.

International Conferences

AI-based descriptors of the distribution ofSARS-CoV-2 in chest CT-scans
M. Ledesma, **J. Cebeiro**, M. Morvidone, XXIII Congreso Argentino de Bioingeniería y las XII Jornadas de Ingeniería Clínica – SABI, San Juan Argentina, 13rd - 18th October 2022.

Tomographic reconstruction from sparse-view and limited-angle data using a generative adversarial network, I. Ayad, C. Tarpau, **J. Cebeiro** and **M. K. Nguyen**; 16th International Conference on Signal Image Technology and Internet-Based Systems (IEEE/ACM-SITIS), Dijon, France, 19th - 21th October 2022

On 3D imaging systems based on scattered ionizing radiation, Cécilia Tarpau, **Javier Cebeiro**, **Mai K. Nguyen**, Geneviève Rollet, Laurent Dumas, SPIE, Strasbourg, France, 29 March-2 April 2020

A new bi-imaging NDT system for simultaneous recovery of attenuation and electronic density maps, Cécilia Tarpau, **Javier Cebeiro** and **Mai K. Nguyen**, 11th Symposium on NDT IN AEROSPACE, Paris-Saclay, November 13-15, 2019.

A new Toric Radon transform and its connection with other Radon type transforms **Javier Cebeiro**, Cécilia Tarpau, Marcela A. Morvidone, Diana Rubio, and **Mai K. Nguyen**, 10th International Conference Applied Inverse Problems (AIP), Grenoble, France, July 8-12, 2019, (Invited Talk).

An interior Compton Scatter Tomography;
J. Cebeiro, M. A. Morvidone, **M. K. Nguyen**, C. Tarpau; IEEE Nuclear Science Symposium and Medical Imaging Conference; Sidney; Australia; November, 2018.

A new modality of bidimensional Compton camera;
J. Cebeiro, Q. Lebailly, M. A. Morvidone, **M. K. Nguyen**; 37th IEEE-EMBC (Engineering in Medicine and Biology Conference); Milan; Italy, August 25-31, 2015.

National Conferences

A new Transmission Compton Scattering Tomography;
J. Cebeiro, M. A. Morvidone, D. Rubio,C. Tarpau, **M. K. Nguyen**; Actas de la XVIII Reunión de Trabajo en Procesamiento de la Información y Control RPIC ; Bahía Blanca; Argentina; 20-22 septiembre, 2019.

On the invertibility of a new toric Radon transform with applications in Compton Scatter Tomography;
J. Cebeiro, M. A. Morvidone, C. Tarpau, **M. K. Nguyen**
Congreso: VII Congreso de Matemática Aplicada, Computacional e Industrial (VII MACI 2019)
Río Cuarto, Córdoba, Argentina, mayo, 2019.

A new Compton scattering tomography and its applications in medical imaging;
J. Cebeiro, **M. K. Nguyen**, M. A. Morvidone; XXI Congreso Argentino de Bioingeniería y X Jornadas de Ingeniería Clínica; Córdoba; Argentina; octubre, 2017.

The Radon transform on V-lines: artifact analysis and image enhancement;
J. Cebeiro, M. A. Morvidone, **M. K. Nguyen**; Actas de la XVII Reunión de Trabajo en Procesamiento de la Información y Control RPIC (ISBN 978-987-544-754-7); Mar del Plata; Argentina; 20-22 septiembre, 2017.

The adjoint operator of the Radon transform on rotation V-lines and its role in image reconstruction;
J. Cebeiro, M. A. Morvidone, **M. K. Nguyen**; VI Congreso de Matematica Aplicada, Computacional e Industrial, ASAMACI; Comodoro Rivadavia; Argentina; Mayo 2017.

On a new two-dimensional Compton camera modality: image reconstruction by back-projection and TSVD;
J. Cebeiro, Q. Lebailly, M. A. Morvidone, **M. K. Nguyen**; 25ème Actas del 25ème. Colloque GRETSI (Groupe d'Etudes du Traitement du Signal et des Images); Lyon; Francia; 8-11 septiembre, 2015.

Back-projection of the tilted TV transform. V Congreso de Matematica Aplicada;
J. Cebeiro, M. A. Morvidone, D. Rubio; V Congreso de Matematica Aplicada, Computacional e Industrial, ASAMACI; Tandil; Argentina; 2015.