

I. de Zarzà i Cubero.

IEEE Member. ACM & SIGGRAPH Member. SIAM Member. IEEE Computer Society.
IEEE Robotics and Automation Society. IEEE Aerospace and Electronic Systems Society.
IEEE Information Theory Society. IEEE Signal Processing Society. IEEE Communications Society.
SIAM Activity Group on Discrete Mathematics. SIAM Activity Group on Imaging Science.
SIAM Activity Group on Computational Science and Engineering.
SIAM Activity Group on Data Mining and Analytics.
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GENERAL INFORMATION

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Nationality: Catalunya (Regne d'Espanya).

CAREER (SELECTED)

Iris Lunar Rover. ETH Zürich. Carnegie Mellon. Pittsburgh.

BRAIN Team. Sub-Lead. December 2020 - till now.

A small research unit that works at the forefront of research in space exploration in the context of planetary rovers.

Universitat Rovira i Virgili. Tarragona.

Research Scholar. September 2018 - September 2020.

Group of Intelligent Robotics and Computer Vision.

The Chinese University of Hong Kong (CUHK). Hong Kong.

Research Assistant. October 2017 - February 2018.

Department of Computer Science and Engineering.

Carnegie Mellon. Pittsburgh.

Research Assistant. June 2017 - July 2017.

School of Computer Science. Robotics.

City University of Hong Kong. Hong Kong.

Senior Research Assistant. January 2017 - May 2017.

Department of Electrical Engineering.

Challenger Deep, Ltd. Hong Kong.

Technical Co-Lead. Co-founder. May 2016 - November 2017.

Top state-funded incubator program. Cyberport.

ETH Zürich (ETHZ). Zürich.

Graduate Research Assistant. April 2015 - September 2016.

Laboratory of Computer Vision.

City University of Hong Kong. Hong Kong.
Research Associate. July 2015 - August 2015.
Department of Computer Science.

Carnegie Mellon. Pittsburgh.
Research Associate I. June 2014 - August 2014.
School of Computer Science. Robotics.

EDUCATION
(SELECTED)

ETH Zürich (ETHZ). Zürich.

Doctor of Science. April 2015 -
Laboratory of Computer Vision.

Thesis: A Unifying Theory of Learning: DL Meets Kernel Methods.

Carnegie Mellon. Pittsburgh.

Master of Science. May 2014 - February 2015.
School of Computer Science. ML Department and Robotics.

Thesis: A Library for Fast Kernel Expansions with Applications to Computer Vision and Deep Learning.

City University of Hong Kong. Hong Kong.

Master of Science. September 2013 - February 2015.
Department of Electrical Engineering.

GPA: 3.86 (0-4 scale).

Classification of Award: Distinction (4/+100).

Specialization in Signal Processing, Detection and Estimation in Communications and Embedded Systems. College of Engineering.

Academic Distinctions:

- MS Internship Sponsorship 2014.
Award for top performing students. Robotics. Carnegie Mellon. Pittsburgh.

Universitat Autònoma de Barcelona. Cerdanyola del Vallès (Barcelona).

Degree in Mathematics. 2011 - 2013.
Specialization in Pure Mathematics.
Department of Mathematics. Faculty of Sciences.

Thesis: Physical-layer Network Coding: Design of Constellations over Rings.

Grade: Excellent. First Class with Distinction.

Universitat de Barcelona. Barcelona.

Mathematics, Licentiate. First Cycle. 2007 - 2011.
Department of Mathematics and Computer Science.

Coursework in real and complex analysis, probability, advanced algebra, projective geometry, differential geometry of curves and surfaces, topology, statistics, logic, numerical methods.

Academic Distinctions:

- Top performance during the selection stage, a first year very selective curricula where the majority of the candidates drop the studies.

University Entrance Examination.

Average Grade: 8.93/10. First Class with Distinction.

Academic Distinctions:

- First year scholarship for university studies. Ministry of Education.
This award is given to the top nationwide first year university students.
- First year scholarship for university studies. Caixa Manresa.
This award is given to the top university entrance examination average grades in the region of Catalunya.

Technological Baccalaureate. 2005 - 2007.

Average Grade: 10/10. First Class Degree and Honorary Scholarship.

Academic Distinctions:

- Outstanding Thesis of Research: Squaring the Circle. Study of the different mathematical approaches to solve the ancient problem of the quadrature of the circle.
- Outstanding Curriculum.

PUBLICATIONS

Curtò, **Zarzà**, Kitani, King and Lyu.

Doctor of Crosswise: Reducing Over-parametrization in Neural Networks.

https://www.dezarza.ch/c/doctor_of_crosswise.pdf

Curtò, **Zarzà**, Torre, King and Lyu.

High-resolution Deep Convolutional Generative Adversarial Networks.

<https://www.dezarza.ch/c/hdcgan.pdf>

Curtò, **Zarzà**, Smola and Gool.

Segmentation of Objects by Hashing.

https://www.dezarza.ch/c/c_and_z.pdf

Curtò, **Zarzà**, Yang, Smola, Torre, Ngo and Gool.

McKernel: A Library for Approximate Kernel Expansions in Log-linear Time.

<https://www.dezarza.ch/c/mckernel.pdf>

De Curtò i DíAz, **De Zarzà i Cubero** and Vázquez.

Secure Network Coding: Overview and State-of-the-art.

Universitat Autònoma de Barcelona. Cerdanyola del Vallès (Barcelona). 2012.

<https://hal.archives-ouvertes.fr/hal-03168605/document>

DISSERTATIONS

Doctor of Science.

A Unifying Theory of Learning: DL Meets Kernel Methods.

Supervisor: Van Gool.

ETH Zürich. Zürich. 2021.

<https://hal.archives-ouvertes.fr/tel-03227039>

Master of Science.
 A Library for Fast Kernel Expansions with Applications to Computer Vision and Deep Learning.
 Supervisors: Smola, De la Torre and Ngo.
 Carnegie Mellon. Pittsburgh. 2014.
<https://www.dezarza.ch/z/dezarza.pdf>
https://www.dezarza.ch/z/slides_dezarza.pdf

Degree in Mathematics.
 Physical-layer Network Coding: Design of Constellations over Rings.
 Supervisors: Vázquez and Mondelo.
 Universitat Autònoma de Barcelona. Cerdanyola del Vallès (Barcelona). 2013.
https://www.dezarza.ch/z/pfc_dezarza.pdf
https://www.dezarza.ch/z/slides_pfc_dezarza.pdf

WORK EXPERIENCE

Institut d'Educació Secundària Joan Coromines. Barcelona.
 Teaching Assistant. 2005 - 2006.

LANGUAGES

English -
TOEFL Internet Based test. 11-12-2016. **Score 102/120.**

SERVICES

ICML 2020. Virtual Conference. Formerly in Vienna. 12/07 - 18/07. 2020.
 Attendee.

Robotics: Science and Systems. Virtual Conference. Formerly in Corvallis. 12/07 - 16/07. 2020.
 Attendee.

SIAM Conference on Imaging Science. Virtual Conference. Formerly in Toronto. 06/07 - 17/07. 2020.
 Attendee.

IEEE International Symposium on Information Theory. Virtual Symposium. Formerly in Los Angeles. 21/06 - 26/06. 2020.
 Attendee.

IEEE Conference on Computer Vision and Pattern Recognition. Virtual Conference. Formerly in Seattle. 14/06 - 19/06. 2020.
 Attendee.

IEEE International Conference on Communications. Virtual Conference. Formerly in Dublin. 07/06 - 11/06. 2020.
 Attendee.

IEEE International Conference on Robotics and Automation. Virtual Conference. Formerly in Paris. 31/05 - 04/06. 2020.

Attendee.

SIAM Conference on Mathematics of Data Science. Virtual Conference. Formerly in Cincinnati. 04/05 - 30/06. 2020.

Attendee.

IEEE International Conference on Acoustics, Speech, and Signal Processing. Virtual Conference. Formerly in Barcelona. 04/05 - 08/05. 2020.

Attendee.

ICLR 2020. Virtual Conference. Formerly in Addis Ababa. 26/04 - 01/05. 2020.

Attendee.

Written presentation at the Social Virtual Event on Open source tools and practices in state-of-the-art DL research.

Slides with Q&A annotations: www.decurto.tw/c/iclr2020_DeCurto.pdf

First European Training School in Network Coding: Random Network Coding and Designs over $GF(q)$. IEEE Information Theory Society. Universitat Autònoma de Barcelona. Cerdanyola del Vallès (Barcelona). 04/02 - 08/02. 2013.

From designs over $GF(q)$ to applications of networking: a cross-road for mathematics, computer science and engineering.

Attendee and Volunteer.

EXTRACURRICULAR ACTIVITIES

Program of Open Mentoring. Department of Computer Science. The University of Hong Kong. 2014 - 2018.

Symposium of the Royal Society of Mathematics. The Millennium Problems. Awarded with an assistance grant by Institut de Matemàtica de la Universitat de Barcelona. Barcelona. 1 - 3 June 2011.

Course in Investment and Financial Markets. Technical Analysis and Risk Management. Barcelona. 23 - 26 May 2011.

Course in Investment and Financial Markets. Barcelona. 18 - 21 April 2011.

Competition of Entrepreneurship. EMPREN UPC. 1st Edition. Universitat Politècnica de Catalunya (UPC). Finalist project awarded with honorable mention and 1000 euros. Barcelona. 14 March 2011 - 14 June 2011.

PROGRAMMING

C, C++, Java, Python, MATLAB and Prolog.

SOFTWARE

L^AT_EX, R, Maple, Mathematica and EViews.