Introduction to Intelligent Signal Processing (Lab Python)



Danilo Greco

Topics

- 1. Introduction: interactive notebook and lessons -> Jupiter Notebook.
- 2. Installation SW environment and Python.
- 3. Relevant libraries: Numpy, Matplotlib, Pandas, Scipy.
- 4. Exercises and examples.
- 5. Google Colab.
- 6. Acoustic Beamforming (acoustic antenna) and Time Difference of Arrival (TDA) (theory)

Timetable and course organization first option

MAY 2023

SUN	MON	TUE	WED	THU	FRI	SAT
30	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	1	2	3

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JUNE 2023

SUN	MON	TUE	WED	THU	FRI	SAT
28	29	30	31	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	1

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Timetable and course organization second option

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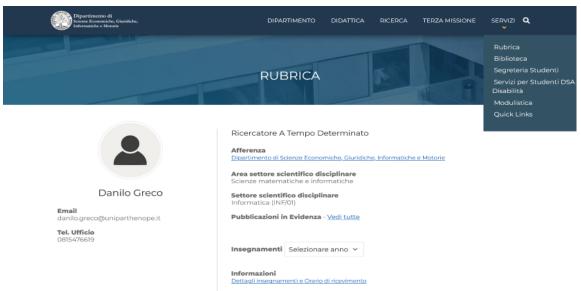
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Who's this guy?







https://disegim.uniparthenope.it/disegim/organigramma/65122

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My "farfield"

- MSc Medical Physics (1990 1996) (Unige)
- Research scientist MRI R&D (Esaote) (1998–2002) SW developer in clinical imaging and pulse sequences for MRI
- Marketing Application Specialist MRI (2002–2004)
- Marketing Clinical Manager MRI (2004–2007)
- Team leader R&D (2007 2014) (Sequence Design MRI Group) (MRI sequences, acquisition techniques, reconstruction & post processing algorithms).
- Advanced research Ultrasound.

Patents (2), papers (3) and posters (14).

ECR (European Congress of Radiology),

ISMRM (International Society for Magnetic Resonance in Medicine)

My "nearfield"

- Master in Technology Transfer, Innovation, entrepreneurship in high-tech (2012 2014) (Unige, "working student")
- Technology Transfer Manager @ CNR Istituto Fisica Applicata Nello Carrara (Sesto Fiorentino, Florence) (2014 – 2015)
- Expert in Innovation and Business Development (Tuscany H2020 project on SME Instrument) (IRPET Istituto Regionale Programmazione Economica Toscana) (2014 – 2016)
- Advanced Scientific Research (Esaote) (2016 2018) Ultrasound
- PhD in Electronic and Telecommunication Engineer (2017 2020) (Unige, "working student")
- Teacher PhD School Dibris Unige. Course (6 cfu): Research Oriented Structural and Functional Neuroimaging (A.Inuggi, D.Greco).
- IIT RBCS Fellow Senior 2018 2019
- IIT PAVIS Visiting Scientist 2019 2020
- Temporary Teacher Informatics and Electronics 2019 2020
- Temporary Teacher in System Automation 2020 2021
- Full Teacher in Mathemátics (STEM 2021)
- Unige Dibris (Departement of Informatics, Biorngineering, Robotics and System Engineering) – Sientific Collaborator (Signal Processing and ML)
- Uniparthenope RTD-A DiSEGIM (Department of Economics, Law, Cybersecurity, and Sports Sciences) Nola

Your turn....