

## PERSONAL INFORMATION

## Francesco Lupi



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 • [scholar.google.com/citations?user=BNRQHVVAAAAJ&hl=pt-PT&oi=ao](https://scholar.google.com/citations?user=BNRQHVVAAAAJ&hl=pt-PT&oi=ao)  
• [www.researchgate.net/profile/Francesco-Lupi-2](https://www.researchgate.net/profile/Francesco-Lupi-2)  
• [www.scopus.com/authid/detail.uri?authorId=57223198595](https://www.scopus.com/authid/detail.uri?authorId=57223198595)

Driving licence: B

Tax code: LPUFNC95B09D403Y

Sex Male | Date of birth 09/02/1995 | Nationality Italy (IT)

## EDUCATION

Nov. 2021 – May 2025

## PhD in Smart Industry, Doctor Europaeus

Department of Information Engineering (DII), University of Pisa, IT

**Ranked First** for XXXVII PhD Cycle. [Smart Industry Program](#)

Main research topic: Industrial engineering, quality control and engineering education.

Keywords: Vision Inspection System (VIS), Industry 4.0/5.0 (I4.0/5.0), Sustainability, Human-machine interaction, Flexible and Reconfigurable production, CAD-based and digital manufacturing, Model Based Definition (MBD), Engineering educational design, Higher education.

Final defence score ([attached certificate](#)): **Excellent with honours**

2017 - 2020

## MEng in industrial and management (2-year university degree)

Department of Energy, Systems, Land and Construction Engineering (DESTEC), University of Pisa, IT

Fields of study: Design and management of systems/processes and data analysis.

Exams and final thesis average score: 30.2/33

Exams and final score ([attached certificate](#)): **110/110 with honours**

2014 - 2017

## BEng in industrial and management (3-year university degree)

Department of Civil and Industrial Engineering (DICI), University of Pisa, IT

Fields of study: Engineering basics.

Final score ([attached certificate](#)): **110/110**

2009 - 2014

## Five years secondary school diploma in scientific studies

Liceo Scientifico il Pontormo, Empoli (FI), IT

Fields of study: traditional orientation

Final score: **96/100**

ACADEMIC FELLOWSHIPS/  
AWARDS

Jan. 2026 – July 2026

## Optimization of the Production Planning Process through AI, Computer Vision, Big Data, and Cloud Computing

Received an extension of [University of Pisa – DICI fellowship](#) focused on optimizing production planning processes through AI and CAD technologies, computer vision, big data, and development of custom Learn Management System (LMS) for professional training.

July 2025 – Jan. 2026

## Optimization of the Production Planning Process through AI, Computer Vision, Big Data, and Cloud Computing

Received a [University of Pisa – DICI fellowship](#) focused on optimizing production planning processes through AI and CAD technologies, computer vision, big data, and cloud computing, and contributing to the Erasmus+ project The Evolving Textbook (TET), which aims to deliver dynamic and evolvable learning materials through a collaborative platform grounded in Constructive Alignment (CA) principles.

Nov. 2024 – May 2025

## Development of HW/SW based on Artificial Intelligence, Machine Vision, Big data

### e Cloud Computing for the automation of metal sheet processing machine, Pisa

Received [University of Pisa DICI fellowship](#) for the development of HW/SW based on Artificial Intelligence, Machine Vision, Big data e Cloud Computing for the automation of metal sheet processing machine. The aim of the project is to design and develop a Python-based GUI, algorithms and system for the visual inspection prototype machine.

Feb. 2024 – Jun. 2024

### FONDO GIOVANI - 20 hours teaching support at UNIPI DESTEC courses

Received [University of Pisa DESTEC fellowship](#) for “tutoring; integrative teaching; and others” for the following courses affiliated to the Department of Energy, Systems, Land and Constructions Engineering (DESTEC).

- DESTEC-15, TECNOLOGIA MECCANICA, 20 hours INGEGNERIA DELL'ENERGIA

Nov. 2023

### Best Student Paper Award, International Conference on Industry 4.0 and Smart Manufacturing, Iscte - University Institute of Lisbon, Portugal

Monetary prize of 300 CHF and publication of the extended version of the [best student paper awarded](#)

**Lupi, F.,** Maffei, A., & Lanzetta, M. (2024). [CAD-based autonomous vision inspection systems](#).

Procedia Computer Science **2024**, 232, 2127-2136 on the Journal of Manufacturing and Materials Processing (MDPI).

Aug. 2023 – Mar. 2024

### Faculty of Sciences and Technology (FCT), NOVA University of Lisbon

Received [Erasmus+ Traineeship program fellowship](#) for a 7-month PhD period abroad to join the research group at Faculty of Sciences and Technology (FCT), Departamento de Engenharia Eletrotécnica e de Computadores (DEEC), led by [Prof. José A. Barata de Oliveira](#). The aim of this period was to design and develop a Flexible Vision Inspection System (FVIS), core of the PhD thesis. Certificate [here](#).

Oct. 2022 – Feb. 2023

### FONDO GIOVANI - 40 hours teaching support at UNIPI DICI courses

Received [University of Pisa DICI fellowship](#) for “tutoring; integrative teaching; and others” for the following courses affiliated to the Department of Civil and Industrial engineering (DICI).

- DICI/53, OTTIMIZZAZIONE DEI PROCESSI PRODUTTIVI, 10 hours INGEGNERIA MECCANICA WMELM

- DICI/25, TECNOLOGIA MECCANICA, 30 hours INGEGNERIA GESTIONALE IGE-L

Sep. 2020 – Oct. 2021

### Manufacturing technologies, I4.0, sustainability and education, Pisa

Received [University of Pisa DICI fellowship](#) for “Manufacturing technologies, I4.0, sustainability and education” focused on the Erasmus+ project “MANufacturing Education for a SusTainable fourth industrial RevOLution” (MAESTRO). The aim of the project is to design and develop more sustainable engineer courses using the I4.0 technologies according to Constructive Alignment (CA) framework.

Sep. 2019 – Dec. 2019

### University of Hawaii at Manoa, Oahu, Honolulu (HI), USA

Received [University of Pisa fellowship](#) to join the US research group at UH Manoa lead by Prof. [Monique Chyba](#) and Doc. [Sonia Rowley](#):

- Master thesis project: Photogrammetry and 3D reconstruction of Mesophotic Coral Ecosystem (MCEs) of the Senyavin Islands, Federal States of Micronesia, info [here](#) and [certificate here](#).
- Proof classes: 40 hours as student at ‘Proof’ classes by Doc. Monique Chyba, UH Math’s Department.
- Teaching experience: 1 day as a teacher at the Molokai high school for math challenge project related to Kaho’olawe protection (60+ students). Event organized by UH Math’s Department with the collaboration of Protect Kaho’olawe ‘Ohana ([PKO](#)).
- Laboratory for advanced visualization and application ([LAVA lab](#)): testing of some 3D meshes corals for visualization project.
- Joined conferences and talks at the Math’s department at UH.

Sep. 2017 – Jan. 2018

### GKN Driveline Firenze SpA, Campi Bisenzio (FI), Italy

Received [University of Pisa DICI fellowship](#) for consulting activities on:

- AutoCAD Mechanical software instructor (12 hours/week). Three types of courses based on the different levels of skills (30+ students).

Collaborator for production plant re-layout and cells optimization project. Analysis and modeling of constant-velocity joints production process. Workflow analysis, cycle time and other efficiency metrics collection and improvement.

## COMPETITIVE PROJECTS

Jan. 2024 – Mar. 2025

### Regional Project Digital Enterprise EB Metal srl, Monte San Savino AR, Italy

Research and development of a flexible HW/SW system based on a robotic arm for the autonomous unloading of laser cutting machines guided by artificial vision.

- Role: Ph.D researcher
- Funding: k€ 50
- Duration: 15 months

Sep. 2022 – Aug. 2025

### Erasmus+ TET

The Evolving Textbook (TET) project addresses the need for a more flexible and learners-centred approach to higher education textbooks ([official website](#)).

- Role: Ph.D researcher
- Partners: University of Ljubljana (SLOVENIA), coordinator, Rzeszow University of Technology (POLAND), Royal Institute of Technology (SWEDEN), DICI University of Pisa
- Funding: k€ 250 (University of Pisa k€ 60)
- Erasmus+ Programme, Strategic Partnerships Key Action KA2 - Cooperation for innovation and the exchange of good practices, Action Type KA220 - Cooperation Partnership in Higher Education, Call 2022, Round 1
- Duration: 36 months
- Contract No. KA220-HED-00ABA996

Feb. 2022 – Jan. 2025

### Erasmus+ MarbleTECH

New educational approach of innovative technologies and eco-advances in the marble industry ([official website](#)).

- Role: Ph.D researcher
- Partners: Institute for Technology Transfer and Innovations (BULGARIA), Creative Thinking Development (GREECE), Bogazici Universitesi (TURKEY), Virtual Campus Ida (PORTUGAL), Asociación Empresarial de Investigación Centro Tecnológico del Marmol y la Piedra (SPAIN), Desinope 323 s.l. (SPAIN), C.G.S. di Coluccia Michele & C. s.a.s. (ITALY), Internazionale Marmi e Macchine Carrara Spa (ITALY), CAFRE DICI University of Pisa (COORDINATOR)
- Funding: k€ 375 (University of Pisa k€ 61)
- EU Erasmus+ Programme, Strategic Partnerships Key Action KA2 - Cooperation for innovation and the exchange of good practices, Action Type KA202 - Strategic Partnerships for vocational education and training, Call 2021, Round 1
- Duration: 36 months
- Score: 88/100 (eligible, funded)

Sep. 2020 – Dec. 2022

### Erasmus+ MAESTRO

MAnufacturing Education for a suSTainable fourth industRIal revolution focused on the production of university teaching modules on Industry 4.0 and sustainability ([official website](#))

- Role: Fellowship Researcher and Ph.D researcher
- Partners: Royal Institute of Technology (SWEDEN), coordinator, Polytechnic University of Rzeszow (POLAND), University of Loughborough (UK), University of Ljubljana (SLOVENIA), NOVA University of Lisbon (PORTUGAL), Polytechnic University of Turin, DICI University of Pisa
- Funding: k€ 301 (University of Pisa k€ 42)
- EU Erasmus+ Programme, Strategic Partnership Key Action KA2 - Cooperation for innovation and the exchange of good practices, Action Type KA203 - Strategic Partnerships for higher education, Call 2019, Round 1
- Duration: 40 months
- Contract No. 2019-1-SE01-KA203-060572

## INDUSTRIAL RESEARCH PROJECTS

May 2024 – Feb. 2025

### Semar srl Project, Badia al Pino (AR), Italy

Research and development of a flexible HW/SW system based on a high-precision robotic arm for assembly, machining and welding of small components guided by artificial vision.

- Role: Ph.D researcher and 3-months stage ([stage formative project](#))
- Funding: k€ 40 (materials, machinery and equipment)

- Duration: 24 months

Sep. 2022 – Aug. 2025

### SVI Spa Project, Lucignano (AR), Italy

Research: development of an HW/SW system based on an autonomous robotic inspection arm guided by machine vision for railway infrastructures.

- Role: Ph.D researcher
- Funding: k€ 98
- Duration: 18 months

Feb. 2022 – Jul. 2022

### Cumdi srl Project, Germignaga (VA), Italy

Research and development of a low-impact recycling method for tungsten carbide grinding chips

- Role: Ph.D researcher
- Funding: k€ 54
- Duration: 6 months

## WORKING EXPERIENCE

Aug. 2025 – Today

### Univerisy of Ecampus, Noverdate, Italy

Teaching tutor for the Python Programming for Data Science laboratory and co-supervisor of theses of the Bachelor's Degree Program in Computer and Automation Engineering (L8), Department of Theoretical and Applied Sciences (DiSTA).

Dec. 2025 – Today

### Brokancode Ltd, London, United Kingdom

Co-founder of [Brokancode Ltd](#) company active in digital innovation consultancy delivering project-based consulting, rapid prototyping, digital transition support, and capability-building services.

Apr. 2025 – Today

### Au-tomate, Pisa, Italy

Co-founder of the Research Group [Au-tomate](#) for automation democratization at DIC1, University of Pisa.

Nov. 2020 – Aug. 2021

### Consortium QUINN, Piazza Carrara, Pisa, Italy

[University Consortium in Engineering for Quality and Innovation](#) (QUINN) is a non-profit making consortium recognized by the Italian Ministry of Education, University and Research. Among several activities, below the two most significant led projects:

- Smart Data Dashboard (SDD) software development (Nov 2020-Aug 2021).
- University of Pisa Centers and Systems processes mapping and optimization (Gen 2021-Aug 2021).

Sep. 2020 – Jan. 2021

### Agenzia PER-corso, Via del Brennero, Lucca, Italy

Selected by Regione Toscana as Junior teacher for yacht designers in the fully financed by POR FSE TOSCANA 2014-2020 "[TENDER](#)" program:

- The 45 hours course entitled "3D modeling and Rendering" offered theoretical as well as practical skills on industrial drawing theory, standards, yacht design using Rhinoceros software (9 students).
- The course has been carried out through hybrid learning approach due to the COVID-19 restrictions (hybrid education: distance and in presence).
- Supervisor for a final project on 39-feet yacht 3D-2D design.

## PERSONAL SKILLS

Mother tongue

Italian

Other language

English

| UNDERSTANDING |         | SPEAKING           |                   | WRITING |
|---------------|---------|--------------------|-------------------|---------|
| Listening     | Reading | Spoken interaction | Spoken production |         |
| C1            | C1      | C1                 | B2/C1             | C1      |

[English C1 certificate](#). English for Research Publication and Presentation Purposes PhD course 2022

[English B2 certificate](#). LanguageCert Level 1 Certificate in ESOL International (Listening, Reading,

Writing) (Communicator B2) 603/1961/6 2021

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user  
Common European Framework of Reference for Languages

|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data analysis                          | Rule-based and Machine Learning-based supervised and unsupervised learning techniques focused on function fitting, classification, dimensionality reduction, clustering, and time series analysis. Notions about optimization problems with some experiences in heuristic techniques (e.g., genetic algorithms).                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Data driven decision-making strategies | Highly skilled on company's metrics monitoring systems and decision-making processes. Fields of study: quality and HSE systems management, planning and control, integrated logistics and business organization.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Software proficient level              | <ul style="list-style-type: none"> <li>- 3D/2D CAD modeling software: <ul style="list-style-type: none"> <li>o AutoDesk packages: AutoCAD Mechanical, Inventor Pro and Fusion;</li> <li>o Dassault packages: Solidworks;</li> <li>o McNeel: Rhinoceros;</li> </ul> </li> <li>- Meshing software: MeshLab; Rendering: V-Ray; Rhino;</li> <li>- Photogrammetry: Agisoft Photoscan PRO, Autodesk ReCap Photo; Meshroom;</li> <li>- Casting and solidification simulation software: Click2Cast; Inspire Cast;</li> <li>- Statistical software: R, Python, Matlab;</li> <li>- Programming languages: Python;</li> <li>- Windows operating systems and office 365 packages.</li> <li>- Cloud collaborative software: OneDrive, Gdrive, Miro, LucidChart, Overleaf</li> </ul> |

## PUBLICATIONS

Full list of publications and bibliometric indicators:

- [https://scholar.google.com/citations?hl=pt-PT&user=BNRQHVYAAAAJ&view\\_op=list\\_works&sortby=pubdate](https://scholar.google.com/citations?hl=pt-PT&user=BNRQHVYAAAAJ&view_op=list_works&sortby=pubdate)  
- <https://www.researchgate.net/profile/Francesco-Lupi-2>

- Stadnicka, D., **Lupi, F.**, Mabkhot, M. M., Lohse, N., Ferreira, P., & Lanzetta, M. (2026). [Integrating Sustainable Development Goals into a Practically Applicable Sustainable Value Stream Mapping](https://doi.org/10.3390/systems14030247). Systems, 14(3), 247. <https://doi.org/10.3390/systems14030247>
- Pacini, A., **Lupi, F.**, & Lanzetta, M. (2026). [Semantically enriched CAD models for digital manufacturing: a systematic review of model-based definition](https://doi.org/10.1007/s10845-026-02794-7). Journal of Intelligent Manufacturing, 1-35. <https://doi.org/10.1007/s10845-026-02794-7>
- Cimino, M. G., Hudema, F., Senatore, S., **Lupi, F.**, Foglia, P., & Prete, C. A. (2026, January). [Introducing the Stigmergic Miner, a temporal extension of the Fuzzy Miner based on computational stigmergy](#). In Proc. of 2025 International Fuzzy Systems Association (IFSA) World Congress and 2025 Annual Conference of the North American Fuzzy Information Processing Society (NAFIPS) (pp. 1-8).
- Pacini, A., **Lupi, F.**, Chelli, R., Giacomelli, F., & Lanzetta, M. (2025, Sept.). [Digital thread in fixture design: leveraging model-based definition for seamless information flow](https://doi.org/10.1080/0951192X.2025.2558831). International Journal of Computer Integrated Manufacturing, 1-30. <https://doi.org/10.1080/0951192X.2025.2558831>
- Pacini, A., Rea Minango, N., **Lupi, F.**, Lanzetta, M., Maffei, A. (2025, July). [Vision-Guided Cobot-Assisted Adaptive Metal Sheet Bending](https://doi.org/10.1088/1742-6596/3063/1/012001). In Journal of Physics: Conference Series (Vol. 3063, No. 1, p. 012001). IOP Publishing. <https://doi.org/10.1088/1742-6596/3063/1/012001>
- **Lupi, F.**, Mastropaolo, M., Pacini, A., & Lanzetta, M. (2025, July). [Fast and Low-Cost Robotic Hand-Eye Calibration of Point Laser Sensor](https://doi.org/10.1088/1742-6596/3063/1/012014). In Journal of Physics: Conference Series (Vol. 3063, No. 1, p. 012014). IOP Publishing. <https://doi.org/10.1088/1742-6596/3063/1/012014>
- Pacini, A., **Lupi, F.**, & Lanzetta, M. (2025). [Design of Reconfigurable Handling Systems for Visual Inspection](https://doi.org/10.3390/jmmp9080257). Journal of Manufacturing and Materials Processing, 9(8), 257. <https://doi.org/10.3390/jmmp9080257>



- Pacini A., **Lupi, F.**, Lanzetta, M., (2024) Design for Symmetry and Asymmetry – A Systematic Review in Manufacturing. January Symmetry Culture and Science 35(3):347-350 [https://doi.org/10.26830/symmetry\\_2024\\_3\\_347](https://doi.org/10.26830/symmetry_2024_3_347)
- **Lupi, F.**, Maffei, A., Podrżaj, P., Požrl, T., Stadnicka, D., & Lanzetta, M. (2023, September). [Ontology for Constructively Aligned, Collaborative, and Evolving Engineer Knowledge-Management Platforms](#). In *International Conference on Higher Education Learning Methodologies and Technologies Online* (pp. 142-154). Cham: Springer Nature Switzerland. [https://doi.org/10.1007/978-3-031-67351-1\\_10](https://doi.org/10.1007/978-3-031-67351-1_10)
- **Lupi F.**, Rocha A.D., Maffei A., Ferreira P., Barata J., Lanzetta M., (2024, December). [A Survey on Trends in Visual Inspection Systems Toward Industry 5.0 – A Systematic Mapping Study](#). IEEE 30th International Conference on Engineering, Technology and Innovation (ICE 2024) - conference proceedings. [10.1109/ICE/ITMC61926.2024.10794405](https://doi.org/10.1109/ICE/ITMC61926.2024.10794405)
- **Lupi, F.**, Freitas, N., Arvana, M., Rocha, A. D., Maffei, A., Barata, J., & Lanzetta, M. (2024). [Next-generation Vision Inspection Systems: a pipeline from 3D model to ReCo file](#). Journal of Intelligent Manufacturing **2024**, 1-24. <https://doi.org/10.1007/s10845-024-02456-6>
- **Lupi, F.**, Maffei, A., & Lanzetta, M. (2024). [Business Models Definition for Next-Generation Vision Inspection Systems](#). Journal of Manufacturing and Materials Processing **2024**, 8(4), 161. <https://doi.org/10.3390/jmmp8040161>
- **Lupi, F.**, Maffei, A., & Lanzetta, M. (2024). [CAD-based autonomous vision inspection systems](#). Procedia Computer Science **2024**, 232, 2127-2136. <https://doi.org/10.1016/j.procs.2024.02.033>
- **Lupi, F.**, Biancalana, M., Rossi, A., & Lanzetta, M. (2023). [A framework for flexible and reconfigurable vision inspection systems](#). The International Journal of Advanced Manufacturing Technology **2023**, 1-27. <https://doi.org/10.1007/s00170-023-12175-6>
- **Lupi, F.**, Pacini, A., Lanzetta, M. [Laser powder bed additive manufacturing: A review on the four drivers for an online control](#). Journal of Manufacturing Processes **2023**, 103, 413-429. <https://doi.org/10.1016/j.jmapro.2023.08.022>
- **Lupi, F.**, Mabkhot, M. M., Boffa, E., Ferreira, P., Antonelli, D., Maffei, A., Lohse, N., Lanzetta, M. [Automatic definition of engineer archetypes: A text mining approach](#). Computers in Industry **2023**, 152, 103996. <https://doi.org/10.1016/j.compind.2023.103996>
- **Lupi, F.**, Cimino, M. G., Berlec, T., Galatolo, F. A., Corn, M., Rožman, N., Rossi, A. Lanzetta, M. [Blockchain-based shared additive manufacturing](#). Computers & Industrial Engineering **2023**, 183, 109497. <https://doi.org/10.1016/j.cie.2023.109497>
- Pacini, A.; **Lupi, F.**; Rossi, A.; Seggiani, M.; Lanzetta, M. [Direct Recycling of WC-Co Grinding Chip](#). Materials **2023**, 16, 1347. <https://doi.org/10.3390/ma16041347>
- Maffei, A., Boffa, E., **Lupi, F.**, & Lanzetta, M. [“On the Design of Constructively Aligned Educational Unit”](#). Education Sciences, **2022**,12(7), 438. <https://dx.doi.org/10.3390/educsci12070438>
- **Lupi F.**; M. Mabkhot, M.; Finžgar, M.; Minetola P.; Stadnicka D.; Maffei, A.; Litwin P.; Boffa, E.; Ferreira, P.; Podrżaj P.; Chelli R.; Lohse N.; Lanzetta M. [“Toward a sustainable educational engineer archetype through Industry 4.0”](#) Computers in Industry, Volume 134, **2022**,103543, ISSN 0166-3615, <https://doi.org/10.1016/j.compind.2021.103543>
- **Lupi, F.**, Rowley, S. J., Chyba, M., & Lanzetta, M. [“Reconstruction of tubular structures from 2.5 D point clouds: A mesophotic gorgonian coral case study”](#). ANZIAM Journal, **2022**, 63, C1-C14, ISSN 1445-8810. <https://doi.org/10.21914/anziamj.v63.17151>
- **Lupi, F.**, & Lanzetta, M. [“A novel approach for cooperative scientific literature search and socialization”](#). Communications in Computer and Information Science (pp. 31-45), **2022** Springer, Cham. [https://dx.doi.org/10.1007/978-3-030-96060-5\\_3](https://dx.doi.org/10.1007/978-3-030-96060-5_3)

- Boffa, E., **Lupi, F.**, Lanzetta, M., & Maffei, A. "[The Digitalization of Engineering Curricula: Defining the Categories that Preserve Constructive Alignment](#)". Communications in Computer and Information Science (pp. 333-346), **2022** Springer, Cham. [https://dx.doi.org/10.1007/978-3-030-96060-5\\_24](https://dx.doi.org/10.1007/978-3-030-96060-5_24)
- Gastasini, E.; Capecci, N.; **Lupi, F.**; Gagliardi, A.; Saponara, S.; Lanzetta, M. "[An Instrument for the Characterization and Calibration of Optical Sensors](#)". Sensors **2021**, 21, 5141. <https://doi.org/10.3390/s21155141>
- Chiera, M.; **Lupi, F.**; Rossi, A.; Lanzetta, M. "[Lean Maturity Assessment in ETO Scenario](#)". Appl. Sci. **2021**, 11, 3833. <https://doi.org/10.3390/app11093833>
- M. Mabkhot, M.; Ferreira, P.; Maffei, A.; Podržaj, P.; M. adziel, M.; Antonelli, D.; Lanzetta, M.; Barata, J.; Boffa, E.; Finžgar, M.; **Lupi F.** et al. "[Mapping Industry 4.0 Enabling Technologies into United Nations Sustainability Development Goals](#)". Sustainability **2021**, 13, 2560. <https://doi.org/10.3390/su13052560>
- **Lupi F.**; Dini A.; Pacini M.; Arrighini T.; Debbi N.; Ofria T.; Bindi A.; and Lanzetta M. "[Cooperative scientific literature search and socialization through virtual teams](#)" for 3rd International Workshop on Higher Education Learning Methodologies and Technologies Online (HELMeTO) **2021**.
- Boffa E.; **Lupi F.**; Lanzetta M.; and Maffei A. "[The digital transformation of Engineering curricula: the categories that preserve Constructive Alignment](#)" for 3rd International Workshop on Higher Education Learning Methodologies and Technologies Online (HELMeTO) **2021**.
- **Lupi F.** "Francesco Gaini, come essere leader alla Computer Gross", in the book "Stories of Leadership", Pages 143-155, 451, 458, Pisa University press, ISBN 978-88-8250-215-7. December **2017**
- **Lupi F.**; Allen D.; Partenza S.; Natali S. "[Casting simulation with CAE Software](#)", in "Il progettista industriale" magazine, Pages 54-59. October **2017**

## CONFERENCES

- |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sep. 2024 | <ul style="list-style-type: none"> <li>- Speaker at 6th International Workshop on Higher Education Learning Methodologies and Technologies Online, Roma, Italy (<a href="#">HELMeTO 2024</a>). <ul style="list-style-type: none"> <li>o Francesco Lupi, Antonio Maffei, Michele Lanzetta. Teaching Vision Inspection in Industrial Engineering: A constructively aligned online educational course <a href="#">PDF presentation</a>.</li> <li>o Antonio Maffei, Dario Lombardi, Francesco Lupi, Luigi Traetta and Michele Lanzetta. Setting the Stage for Innovation: Developing the Study Framework for the enhancement of the CONALI Ontology in Education.</li> </ul> </li> </ul> |
| Jul. 2024 | <ul style="list-style-type: none"> <li>- Guested at Symmetry Festival, Pisa, Italy 17-20 July 2024 (<a href="#">Symmetry festival</a>). Alessio Pacini, Francesco Lupi, Michele Lanzetta. Design for Symmetry and Asymmetry: A systematic Review in Manufacturing</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                         |
| Jun. 2024 | <ul style="list-style-type: none"> <li>- Speaker at 30th International Conference on Engineering, Technology and Innovation ICE IEEE/ITMC Conference 2024, Funchal, Portugal (<a href="#">ICE conference</a>). Lupi F., Rocha A.D., Maffei A., Ferreira P., Barata J., Lanzetta M., (2024, in press). A Survey on Trends in Visual Inspection Systems Toward Industry 5.0 –A Systematic Mapping Study. IEEE 30th International Conference on Engineering, Technology and Innovation (ICE 2024). <a href="#">PDF presentation</a>.</li> </ul>                                                                                                                                         |
| Nov. 2023 | <ul style="list-style-type: none"> <li>- Speaker at International Conference on Industry 4.0 and Smart Manufacturing, Iscte - University Institute of Lisbon, Portugal (<a href="#">ISM 2023</a>). <b>Best student paper award winning</b>. Francesco Lupi, Antonio Maffei, and Michele Lanzetta. CAD-based Autonomous Vision Inspection Systems. <a href="#">PDF presentation</a>.</li> </ul>                                                                                                                                                                                                                                                                                       |
| Sep. 2022 | <ul style="list-style-type: none"> <li>- Speaker at 4th International Workshop on Higher Education Learning Methodologies and</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

Technologies Online, Palermo, Italy ([HELMeTO 2022](#)). Francesco Lupi, Mohammed M. Mabkhot, Pedro Ferreira, Niels Lohse, Dario Antonelli and Michele Lanzetta. An Archetype for Engineering Education Towards Industry 4.0 Enabled Sustainability. [PDF presentation](#).

- Nov. 2021 - Speaker at Engineering Mathematics and Applications Conference ([EMAC 2021](#)). Lupi F.; Rowley J., S.; Chyba M.; Lanzetta M. Reconstruction of 3D models from 2.5D point clouds: A mesophotic gorgonian coral case study. [PDF presentation](#).
- Sep. 2021 - Speaker at 3rd International Workshop on Higher Education Learning Methodologies and Technologies Online ([HELMeTO 2021](#)). Boffa E., Lupi F., Lanzetta M. and Maffei A. The digital transformation of Engineering curricula: the categories that preserve Constructive Alignment. [PDF presentation](#).
- Jun. 2021 - Guested at the 11th [Conference Lean Learning Academy Multiplier Event of MAESTRO Project](#), RZESZOW UNIVERSITY OF TECHNOLOGY. Definition of new competences in the domain of Industry 4.0 for different engineering profiles – Francesco Lupi, University of Pisa, Italy, presenting by Paweł Litwin, Rzeszow University of Technology, Rzeszow, Poland. [PDF presentation](#).

## WORKSHOPS

- Sep. 2024 - Workshop AITEM 2024 – SFIDE E PROSPETTIVE DI INNOVAZIONE PER IL SETTORE MANIFATTURIERO IN UMBRIA, 10-11 ottobre 2024, Perugia, Uditore
- Sep. 2022 - Workshop AITEM “Sostenere”, 12 settembre 2022, Roma, Uditore

## REVIEW COMMITTEES

- Oct. 2024 - Reviewer for SS005 - Emerging Technologies and Sustainable Practices in Industrial Automation and Robotics (Shaping the Next Generation of Smart Factories, Chair: Prof. Andre Rocha - *NOVA University of Lisbon*, Co-Chairs: Prof. José Barata & Dr. Sanaz Nikghdam-Hojjati - *NOVA University of Lisbon*) at 30th International Conference on Engineering, Technology and Innovation ICE IEEE/ITMC Conference 2024, Funchal, Portugal ([ICE conference](#)). [website page](#)

## MASTER THESIS CO-SUPERVISION

- Academic year 2023 - University of Pisa, Department of Information Engineering, Master Thesis in ARTIFICIAL INTELLIGENCE AND DATA ENGINEERING, Title: [Stigmergic Miner: A novel temporal mining approach based on computational stigmergy](#); Author: Hudema Francesco; Supervisors: Prof. Cimino Mario Giovanni Cosimo Antonio, Dott. Lupi, Francesco, Ing. Alfeo, Antonio Luca.

## SEMINAR AND LECTURES

- Academic year 2025-26 - 6 hours Lectures for 64310 del 23/04/2025 - POC - Percorsi di Orientamento Conoscere e sperimentare per scegliere Modulo: Scienza e Futuro: Esplora, Sperimenta, Orientati at [Istituto d'Istruzione Superiore "Giosuè Carducci"](#). [Certificate](#)
- Academic year 2024-25 - Lectures for the UniPi course of Manufacturing processes at the invitation of Prof. Michele Lanzetta. Introduction to InspireCast for filling and solidification in casting process. [Register](#)
- Academic year 2023-24 - Lectures for the UniPi course of Manufacturing processes at the invitation of Prof. Michele Lanzetta. Introduction to InspireCast for filling and solidification in casting process and hybrid



machine (CNC, laser engraving/cutting, 3D printing) software and hardware. Additional contribution is offered on lesson learned in the development of the manufacturing process project. [Register](#)

Academic year 2022-23

- Lectures for the UniPi course Optimization of Manufacturing processes to second-year MEng students at the invitation of Prof. Michele Lanzetta. Lecture artificial vision systems for defect detection, Introduction to rule-based image analysis, colour processing, morphological analysis with Python. [Register](#)

Academic year 2021-22

- Lectures for the UniPi course of Manufacturing processes at the invitation of Prof. Michele Lanzetta. Introduction to InspireCast for filling and solidification in casting process. Additional contribution is offered on lesson learned in the development of the manufacturing process project. Info [here](#). [Register1](#), [Register2](#) and [Video](#)

Academic year 2021-22

- Lectures for the UniPi course of Manufacturing processes at the invitation of Prof. Michele Lanzetta. Introduction to Solidworks, Fusion and others for simple product 3D modelling. [Register1](#), [Register2](#) and [Video](#)

Academic year 2020-21

- Lectures for the UniPi course Optimization of Manufacturing processes to second-year MEng students at the invitation of Prof. Michele Lanzetta. Lecture on vision systems, image analysis, cloud points and 3D meshes by Python Colaboratory and MatLab

Jul. 2021

- Guest speaker for PCTO photogrammetry project 2 hours introduction at [I.I.S. "L. da Vinci – Fascetti"](#) organized by Ivan Venuti. Hints and guidelines for the use of Meshroom. [PDF presentation](#)

May 2021

- Guest speaker at the process mapping and collaborative tools lecture carried out by Prof. Michele Lanzetta for the UniPi 2nd level master in [Valorization of diverse ability and inclusive education](#) directed by Prof. Michele Lanzetta

May 2021

- Guest speaker at the ["Progetto Live! CAFRE Inaugurazione Laboratorio Ingegneria Istituti Tecnici di Tecnologie Meccaniche"](#) laboratorio Live! Tecnologie Manifatturiere in convenzione con Istituti tecnici da Pisa, Pontedera, Arezzo, con circa 200 partecipanti

Apr. 2021

- Guest speaker at the "Process mapping" lecture carried out by Ilaria Campana and Prof. Franco Failli for the UniPi 1st level master in [Industry 4.0 Design](#) directed by Prof. Gualtiero Fantoni

## BEng and MEng PROJECTS

- Manufacturing processes: 3D modeling, casting simulation, machining-tools and cost estimation of 50cc engine component in collaboration with Piaggio Group. (Software: Fusion360 and Click2Cast).
- Management systems: Organization control system based on ISO 9001:2015 Quality management systems, ISO 9004:2018 Quality of an organization-Guidance to achieve sustained success, ISO 19011:2018 Guidelines for auditing management system and ISO 31000:2018 Risk management. (software: Excel, Visio and AutoCAD).
- Advanced Statistics: Multivariate regression technique for middle-size car emission. Time series analysis techniques for Hugh L. Carey Tunnel traffic prediction. (software: R).
- Intelligent systems: Automated recognition of different color shades in a company producing paints. (Software: MATLAB, neural networks, and fuzzy systems packages).
- Marketing: PCA and FA techniques for dimensionality reduction, clustering analysis for customer segmentations, conjoint analysis for product version selection and clusters validation in bicycle helmets market. (Software: R and SPSS).

## PART TIME JOBS

Jun. 2020 – Sep. 2020

Tutoring: Math and Science private tutoring

- Sep. 2018-Mar. 2020 "Agriturismo La Burra" Restaurant, Via Orbignanese, (FI)  
Dishwasher
- Jul. 2014- Sep. 2016 "Quelli dei libri srl" Bookshop, Via Salvagnoli, Empoli (FI)  
Inventory manager

## REFERENCES

**Prof. Ing. Michele Lanzetta**

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