

# LUCA MAURELLI'S CURRICULUM VITAE

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prova  
ciao

## CURRENT POSITION

**Ph.D. Student** at the Department of Engineering and Applied Sciences  
University of Bergamo

Oct 2019 – Present

## PREVIOUS POSITION

**Research Assistant** at the Department of Management, Information and Production Engineering  
University of Bergamo

May 2018 – Sep 2019

- Project SMART4CPPS, funded by Regione Lombardia, led by 4 OdR and 10 local companies.
  - Management activity of Pilot 1 and Pilot 4
  - Pilot 1: Design of a health monitoring system for electromechanical actuators (University of Bergamo, Camozzi)
  - Pilot 4: Machine learning algorithms for the zero-defect end-of-line tuning of medium-voltage switches (University of Bergamo, Cosberg, ABB, CNR)
- Project CRYOABLATION:
  - Model identification of the temperature dynamics in *cryoblation* for atrial fibrillation therapy (Dipartimento di Cardiologia, Ospedale di Seriate)
- Project SP@RK-4.0-I.E.S.:
  - Data analysis and development of a health monitoring and predictive maintenance system in high performance workcenters (Mandelli spa)
- Project SMI-PREDICTIVE MAINTENANCE:
  - Design of a predictive maintenance system for beverage packaging machines using accelerometers (SMI Group)

**Software Engineer** at Consortium Intellimech  
Kilometro Rosso

Oct 2017 – Apr 2018

- Project KNOWLEDGIZE, funded by Regione Lombardia, led by Consortium Intellimech, with 2 OdR and 3 local companies.
  - Development of a Knowledge Management Web Platform with an Innovative ML Algorithm based on Tag Searching using Django and Google Services (University of Bergamo, University of Brescia, Cosberg, Elettrocablaggi, Vin Service)
- Development of software applications:
  - Push-bottom panel for testing procedures on PLC in C#
  - Monitoring system using industrial communicating protocols MQTT, MTCONNECT, UPC-UA and MODbus in Python

## EDUCATION

**Master's degree cum laude in Computer Science**, University of Bergamo, Italy  
*Development of a Knowledge Management Web Platform with an Innovative ML Algorithm based on Tag Searching*

110L/100  
Mar 2018

**Bachelor's degree in Computer Science**, University of Bergamo, Italy  
*Development of a library for Mobile Robot Trajectory Control*

105/100  
Sep 2015

## POST-GRADUATE EDUCATION

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### Ph.D. Courses in:

- *Nonlinear System Identification*  
**Proff. L. Piroddi, S. Formentin, S. Garatti, G. Panzani and L. Fagiano**  
Politecnico of Milan, Italy 48h, Jan 2019
- *Model based Fault Diagnosis using a MATLAB Linear Framework*  
**Proff. A. Varga and D. Ossmann**  
University of Padova, Italy 48h, Mar 2019
- *Optimization Models and Algorithms*  
**Prof. M. T. Vespucchi**  
University of Bergamo, Italy 24h, Jul 2019
- *Advanced Mathematical Methods for Engineering*  
**Proff. M. Pedroni and A. Raimondo**  
University of Bergamo, Italy 24h, Oct 2019
- *Advanced Numerical Methods for Engineering*  
**Prof. C. Vergara**  
University of Bergamo, Italy 20h, Nov 2019
- *Noise and Vibration Control Engineering*  
**Prof. N. B. Roozen**  
University of Brescia, Italy 15h, Nov 2019
- *Statistical Signal Processing in Engineering*  
**Prof. U. Spagnolini**  
Politecnico of Milan, Italy 26h, Jan 2020

### Ph.D. Schools in:

- *RegML2020 – Regularization Methods for Machine Learning*  
**Prof. L. Rosasco**  
University of Genova, Italy 19h, Jun 2020

### Ph.D. Seminars in:

- *Optimization and control of airborne wind energy systems*  
University of Bergamo, Italy 2h, Jan 2019
- *Identification for Control*  
University of Bergamo, Italy 2h, Mar 2019
- *Optimization Models and Algorithms*  
University of Bergamo, Italy 1h, Jul 2019
- *Fault diagnosis application in industry and mechatronics*  
University of Bergamo, Italy 1h, Oct 2019
- *Kernel-based learning for system identification*  
University of Bergamo, Italy 1h, Oct 2019

## TEACHING EXPERIENCE

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### Lecture Assistant of the following MSc courses at the University of Bergamo:

- *Controlli Automatici* (Advanced Control Systems) 20h course, Sep 2018 – Dec 2018
- *Controlli Automatici* (Advanced Control Systems) 12h course, Sep 2019 – Dec 2019

### Co-advisor of the following MSc theses at the University of Bergamo:

- *Sviluppo preliminare di un sistema di health monitoring per un attuatore elettromeccanico*  
Advisor: prof. Fabio Previdi Students: Davide Palazzini, Alen Preda
- *Data-driven health monitoring di attuatori elettromeccanici per automazione industriale*  
Advisor: prof. Fabio Previdi Students: Davide Presciani, Matteo Gusmini
- *Simulatore elettro-termo-meccanico di strisce bimetalliche per interruttori industriali a bassa tensione*  
Advisor: prof. Fabio Previdi Student: Paolo Pasinetti