

ALESSANDRO BORGHI

Control engineer

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📄 https://github.com/aaborghi

🔗 https://aaborghi.github.io/



EDUCATION

Ph.D. in applied mathematics

Berlin Institute of Technology (TU Berlin), Berlin, Germany

📅 Oct. 2021 - Present

MSc in systems and control

Delft University of Technology (3mE Department), Delft, Netherlands

📅 Sept. 2019 - Sept. 2021

BSc in automation engineering

Tongji University, Shanghai, China

📅 Sept. 2016 - Jul. 2019

BSc in automation engineering

University of Bologna, Bologna, Italy

📅 Sept. 2015 - Dec. 2018

PROFESSIONAL EXPERIENCE

Business development associate

Sparksense, Zurich, Switzerland

📅 October 2020 - March 2021

- Worked to help technology startups in B2B strategies and bring them an efficient market outreach so to enhance their growth and their product development.

Internship project (R&D)

Beckhoff Automation Co., Ltd., Shanghai, China

📅 March 2019 - July 2019

- Design of an active vibration compensation (for residual vibrations) process using the input shaping technique implemented in TwinCAT.

Exchange student

Tongji University, Shanghai, China

📅 Sept. 2016 - Jul. 2017

- Studied one year automation engineering at Tongji University, thanks to the AlmaTong exchange program project with the University of Bologna to receive a double BSc degree.

Internship

CNH Industrial, Basildon, Great Britain

📅 Aug. 2014

- Worked for one month to help field test engineers at CNH Industrial in Basildon, England. Experience in vibration control in tractors with different kind of shock absorbers.

PROJECTS

MSc Thesis:

- *Koopman Subspace Identification in the Presence of Measurement Noise*
Computing a matrix approximation of the Koopman operator through a subspace-identification-based data-driven modeling technique robust to measurement noise.

Second BSc Thesis:

- *Simulation and Implementation of the Input Shaping Technique for a Flexible Transmission System*
Simulation and PLC implementation in MATLAB and TwinCAT respectively. The real test demo consisted in eliminating the vibration of a beam at the end point of its trajectory.

BSc Thesis:

- *Comparison of Three Fuzzy Controllers for an Industrial Linear Axis*
These controllers were designed in Simulink, applied to an AC Brushless motor. These controllers were then applied to the six axes of a Gough-Stewart platform for *in-vitro* tests on human joints.

LANGUAGES

- **Italian:** mother tongue
- **English:** C1 (IELTS score: 7.5)

TECHNICAL SKILLS

You can see some of my projects on Github

- Python
- MATLAB
- TwinCAT

SOFT SKILLS

- Problem solving
- Time management
- Organization
- Teamwork