Mohamed Elobaid

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Info

Citizenship, Residence: Sudanese, Permenant resident of Italy

LinkedIn: https://www.linkedin.com/in/mohamed-elobaid

Scholar: https://scholar.google.com/citations?user=hmvmK8gAAAAJ&hl=it

GitHub: https://github.com/mebbaid

Professional profile

Controls/Robotics engineer

At one point I used to herd goats and farm in my extended family's land back in Sudan. Fast-forward some 15 years and I am doing research on advanced control methodologies and robotics. Still wonder how that came to be. As for my profile, currently I mainly work with nonlinear control, and model predictive control with focus on control problems in robotics. I have also worked on Humanoid robot avatars, controls and automation implementation via different tools and platforms on different settings for different sizes of clients from Kenana Sugar factory to Honda research Japan.

Work experience

from 02/2022 to present — **PostDoc, scrum master @ iCub Facility/AMI**, *Istituto Italiano di Tecnologia*, Genova, Italy.
Responsible for the iit-Honda joint robotics research laboroatory, AMI-Honda JL.

from 03/2018 to 11/2018 — **Research fellow @ iCub Facility/DIC**, *Istituto Italiano di Tecnologia*, Genova, Italy.
Started on the iCub humaniod walking-teleoperation software suite and was one of the contributors for the first release. I was also part, albeit briefly, of the AnDy project team.

from 01/2012 to 05/2015 — **Automation engineer @ ISTU**, *Kenana Engineering and Technical Services*, Khartoum, Sudan.
I worked on the investigation and engineering of controllers for various process units (e.g. steam boilers, shell and tube heat exchangers and ethanol distillaiton columns) and furnished all the design works (e.g. P& IDs and schematic drawings, PLC/DCS specifications, Instrumentation lists and BOQs, supervision of installation and commissioning). See my linkedIn page.

from 08/2011 to 08/2012 — **Graduate teaching assistant @ Electrical engineering department**, *University of Khartoum*, Khartoum, Sudan.
Taught the senior year students at the Bachelor degree the following: Automatic Control lab 1, Automatic Control lab 2. Also taught the fresh-men students an introduction to programming using Matlab.

Education

from 11/2018 to 02/2022 — **PhD in Automatique et Systèmes**, *University Paris Saclay*, Paris, France.
Supervised by Dorothée Normand-Cyrot. Studied nonlinear digital control. Discussed thesis with maximum distinction (cum laude).

from 11/2018 to 02/2022 — **PhD in Automatica, Bioingegneria e Ricerca Operativa**, *La Sapienza university of Rome*, Rome, Italy.
Supervised by Salvatore Monaco. Studied nonlinear digital control. Discussed thesis with maximum distinction (cum laude).

from 10/2015 to 10/2017 **M.Sc in Control Engineering**, *La Sapienza university of Rome*, Rome, Italy.
Final GPA **110/110 cum laude**.

from 11/2006 to 08/2011 **B.Sc in Electrical and Electronics Engineering**, *University of Khartoum*, Khartoum, Sudan.
Curriculm control and Instrumentation. Final GPA 2:1.

Skills

Informatics

Languages **C/C++, Matlab, CMake**, IEC 61131-3 PLC languages

Platforms Linux, Windows

Tools **Git, Visual studio code, Matlab, Simulink**, TIA Portal, WinCC, Wonderware Intouch.

Engineering

Topics **Control systems, robotics**, Instrumentation, Process industry, Model based design.

Tools **YARP**, ROS, Casadi, AutoCAD (P& ID), Latex, Offics suite, Vrep, **Gazebo**.

Soft skills

Management **Agile** software development.

Languages Arabic (Native), English (Fluent IELTS 8.5), Italian (Basic).

Publications

2023 **A Control Approach for Human-Robot Ergonomic Payload Lifting**, *IEEE Internation Conference on Robotics and Automation*, https://ieeexplore.ieee.org/document/10161454.

2023 **Online Non-linear Centroidal MPC for Humanoid Robots Payload Carrying with Contact-Stable Force Parametrization**, *IEEE Internation Conference on Robotics and Automation*, https://ieeexplore.ieee.org/document/10161086.

2022 **Virtual Holonomic Constraints for Euler-Lagrange systems under sampling**, *IEEE European Control Conference*, https://ieeexplore.ieee.org/abstract/document/9838057.

2022 **Station-keeping of halo orbits under sampled-data model predictive control**, *AIAA Journal of Guidance, Control and Dynamics*, https://arc.aiaa.org/doi/abs/10.2514/1.G006349.

2021 **Digital path-following for a car-like robot**, *IFAC Control Conference Africa*, https://www.sciencedirect.com/science/article/pii/S2405896321023697.

2020 **Approximate transverse feedback linearization under digital control**, *IEEE Control systems letters L-CSS*, https://ieeexplore.ieee.org/document/9302703.

2020 **On stable right inversion of non-minimum phase systems**, *IEEE Conference on Decision and Control CDC,*, https://ieeexplore.ieee.org/document/9303851.

2020 **Sampled-data tracking under model predictive control and multi-rate planning**, *IFAC World Congress,*, https://www.sciencedirect.com/science/article/pii/S2405896320326811.

2019 **On unconstrained MPC through multirate sampling**, *IFAC symposium on Nonlinear control systems NOLCOS,*, https://www.sciencedirect.com/science/article/pii/S240589631931818X.

2019 **Telexistence and teleoperation for walking humanoid robots**, *SAI Intelligent Systems and Applications IntelliSys,*, https://link.springer.com/chapter/10.1007/978-3-030-29513-4$_80$.