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Birthdate: 23.07.1996
Birthplace: Giza, Egypt

Ali Elnwegy

Resumé

▬▬▬ Summary

Mechatronics Engineer with a broad skill set, highly motivated and results-driven. Proficient in a wide range of programming languages, including C, C++, Python, Rust, Java, JavaScript, and MATLAB. Possesses a strong academic background in Mechanics, Electric Circuits, Numerical Methods, Finite Element Methods, Hydraulics, Thermodynamics, Robotics, and Vibration. Specializes in Control theory, Optimal and Robust Control, and Multi-Agent Systems Control. Skilled in implementing various control schemes, including PID, LQG, MPC, H_2, and H_∞. Demonstrates a keen interest in conducting research and advancing knowledge in the field. Excellent analytical and problem-solving skills with a focus on academic excellence. Committed to continuous learning and staying at the forefront of new developments in the field. Strong communication and interpersonal abilities with a collaborative mindset.

▬▬▬ Education

2019–now	**M.Sc. in Mechatronics Engineering**, *Technische Universität Hamburg-Harburg*, Hamburg, Germany
Master Thesis:	Multi-Layered Control of a Telemanipulation platform with Vibrotactile Feedback
Project Work:	Empirical Studies of Multi-Agent Formation Control over Stochastic Communication Networks
2014–2019	**B.Sc. in Mechatronics Engineering**, *German University in Cairo*, Cairo, Egypt
Bachelor Thesis:	Model Predictive Control of a Tower Crane

▬▬▬ Publications

Conference WIP:	Multi-Layered Control of a Bilateral Haptic Telemanipulation Setup using Collaborative UR10e Robots World Haptics Conference 2023

▬▬▬ Experience

July 2022–Now	**Pentax Medical Europe GmbH.**, *Hamburg, Germany*, Working Student
August 2020–May 2021	**Home Power Solutions GmbH.**, *Berlin, Germany*, Working Student, Adapting a Model Predictive Controller for an Energy Storage System to Weather Conditions
May–August 2020	**Home Power Solutions GmbH.**, *Berlin, Germany*, Summer internship, Developing an IOT Solution for measuring the Room Air Quality

▬▬▬ Skills

Programming Languages

Python	Excellent Knowledge	Matlab	Excellent Knowledge
Rust	Excellent Knowledge	C	Excellent Knowledge
Typescript	Good Knowledge	Javascript	Good Knowledge
C++	Good Knowledge	C#	Good Knowledge
Java	Good Knowledge	C-Lisp	Basic Knowledge
Haskell	Basic Knowledge	OCaml	Basic Knowledge

Other Computer Skills

ROS, ROS2, LaTeX, Linux, Arduino, ESP32, Raspberry Pi, SolidWorks, Adobe AutoCAD, Bash, PowerShell, Vim, Microsoft Active Directory, MySQL, Networking, Object-Oriented Programming, Functional Programming

Microsoft Office	Word, Excel, PowerPoint, Visio, Access, Project

Languages

Arabic, English	Mother tongue, Fluent
German	Upper-Intermediate
French	Beginner

Interests

Programming	Advent of Code 2022 in C
	Models Library in Pure Rust (no BLIS/BLAS or LAPACK)