



# Walter Gallego Gomez

M.Sc. COMPUTER ENGINEERING

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## Department of Control and Computer Engineering

POLITECNICO DI TORINO

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Dear examining commission, with this letter I would like to express my interest for the Ph.D. position in computer engineering at DAUIN.

**Background.** During my bachelor's degree in Electronic Engineering at the University of Antioquia I had the opportunity to explore several sub-fields of electronics, and the one that intrigued me the most was digital systems. I decided to push my education further and joined the double degree program with the Politecnico di Torino, where I obtained my M.Sc. in Computer Engineering, with a focus on Embedded Systems. For my thesis, I developed a software application for secure password storage, that leveraged heavily on the capabilities of the SEcube framework, an open-source security-oriented hardware platform with an accompanying set of software libraries. After graduating, I was hired as a software developer for an automotive infotainment project at Marelli, where I was able to hone my skills in embedded software development in C/C++ within a Linux ecosystem. Three years later I started my path as a researcher at Politecnico di Torino, where I have been working on three different projects, two of which focus on bioinformatics algorithms and technologies, and the third on heterogeneous architectures. In addition to my research, I am also serving as a teaching assistant in the computer engineering department. Thanks to all of these experiences I have improved not only my hard skills, but I have also learned to collaborate with clients, colleagues and students, and to manage my own time and work under pressure with tight deadlines. I have become comfortable with multitasking as well as with investigating on my own new topics that I am not familiar with. I have learned to explain myself better and to support others as well as to ask for help when I need it.

**Research interests.** I am interested in multidisciplinary research projects that allow me to put to good use all the knowledge and skills in electronics and programming that I have acquired during my academic and professional career. In particular, I am interested in bioinformatics, because of the impacts it can have on medical research, and the challenges it poses due to the large amounts of noisy data that needs to be analyzed, requiring high computational power and the use of innovative disciplines, such as machine learning.

**Why a PhD.** After working for three years in the private sector, I wanted to try something that had always captivated me: academic research. I wanted to challenge myself and be part of an environment where I could learn and explore new ideas with experienced researchers. I wanted to be part of the scientific community, where open-source code and peer-reviewed journals are the norm. I wanted to be on the frontier of knowledge.

From my ongoing experience as a research assistant, I have confirmed that my choice was correct and that my passion for computer technologies and their application to solve real-world issues is genuine. I am confident in my abilities and am ready to take on the challenge of starting my Ph.D. at DAUIN, which will allow me to continue my research activities while also allowing me to engage with academia, both as a student and as a teaching assistant.

**Why DAUIN.** Thanks to the advice of a colleague from my Master's, I decided to search for opportunities within the EDA group. My experience so far with professor Urgese has been great as it has allowed me to work in a multidisciplinary environment, learning and working on real-world problems and their solution using different edge technologies. The possibility to collaborate with external institutes, companies and researchers has been more than welcome, as well as the efforts of the department to encourage international collaborations with conferences and seminars

**Aspirations.** As for my aspirations in the near future, I hope to make a meaningful contribution to the scientific community. I would like to become an expert in a niche field while also maintaining a broad perspective on interesting topics. I would love to be able to guide and support new students and researchers, just as I have been guided.

Sincerely,  
Walter Gallego Gomez