






ANDRES E. GONZALEZ R.

MEDICAL COMPUTER SCIENTIST | BIOMEDICAL ENGINEER

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ABOUT ME

I'm currently studying a master's degree in medical computer science at Leipzig University. I came to Germany as an exchange student, then I decided to pursue my higher education in the fields of biomedical engineering and medical computer science. During my studies I have also been a part of many research and development interdisciplinary teams focused on projects in my fields of study. There I gathered many skills, such as designing and manufacturing testing-rigs, prostheses, custom PCBs and soft robots, as well as creating the software to easily and intuitively control such hardware. My passion lies in creating things that help people and thanks to my studies and work experience I can perform all the tasks involved in the development of a prototype, from conception and design, through electronics and hardware, until software development.

WORK EXPERIENCE

RESEARCH ASSISTANT INNOVATION CENTER COMPUTER ASSISTED SURGERY (ICCAS)

2024 - 2025

Support in the research department of the soft robotic department of ICCAS.

- Development and control of soft robots using versatile skills such as 3D printing on resin printers and a Bioplotter, integration of sensors with microcontrollers, CAD modeling and programming in Python (mainly a control GUI) and C.
- Mixing, printing and testing of soft materials for soft robotic applications such as an artificial heart.
- Custom PCB design for 3D printed DMS sensors, using conductive PLA.
- Development of my own proposed Master Thesis.

STUDENT HELPER RESEARCH DEPARTMENT OF ORTHOPEDICS UNIVERSITY CLINIC OF AACHEN

2022 - 2024

Collaborated with the research department of the orthopedics department of the University Hospital Aachen.

- Development and control of biomechanical test benches using versatile skills such as 3D printing, integration of microcontrollers, various motors, CAD modeling and programming in Python (mainly a control GUI) and C. This multidisciplinary approach optimized the performance and reliability of the test rigs for various endo- and exo-prostheses.

STUDENT HELPER NUCLEAR PHYSICS LABORATORY

2019 - 2022

Assisted in the nuclear physics laboratory of the FH Aachen Campus Jülich Department of Energy Technology.

- Supervised internships, ensuring smooth workflow and effective learning experiences for students.
- Utilized LabView to manage and control instrumentation and setups, contributing to the efficiency and accuracy of data acquisition in the lab.
- Utilized MySQL and HTML to develop and manage a comprehensive database for the inventory of nuclear samples.

STUDENT HELPER FRESHMAN INSTITUTE

2019 - 2023

Support at the Freshman Institute at FH Aachen in Geilenkirchen.

- Planning and organizing events and activities aimed at both students and the public to promote engagement and a sense of community within the institution.
- Conceived and developed compelling media content to promote the institute and its activities to raise awareness and encourage participation from the public and students.

EDUCATION/INTERNSHIPS

MEDICAL COMPUTER SCIENCE AT LEIPZIG UNIVERSITY

2023 - 2025

Medical computer Science M.Sc. at Leipzig University, Faculty of Mathematics and Computer Science

INNOVATION CENTER COMPUTER ASSISTED SURGERY

2024

Internship as part of my master's degree at the UKL, Leipzig site.

BIOMEDICAL ENGINEERING AT THE FH AACHEN

2019 - 2023

Biomedical Engineering (AOS) B.Eng. at the FH Aachen, Campus Jülich

RESEARCH DEPARTMENT OF ORTHOPEDICS UNIVERSITY CLINIC OF AACHEN

2022

Internship as part of my practical project for my bachelor thesis at the UKA, Aachen site.

FRESHMAN INSTITUTE OF THE FH AACHEN 2018 - 2019

Pre-university year at the Freshman Institute of the FH Aachen, Campus Geilenkirchen and finally university internship as part of the preparatory year, FH Aachen, campus Jülich

INTERNSHIP IVC MEDIA INT.

2018

Internship as Videoeditor and Producer at IVC Media int. Caracas, Venezuela.

EXCHANGE STUDENT PROGRAMM

2017 - 2018

Exchange student programm at the AGB, 50259 Pulheim, Deutschland

SCHOOL CERTIFICATE

2006 - 2017

School certificate, with science Branch (Bachiller en Ciencias) Institutos Educacionales Asociados, 1080 Caracas, Venezuela

SKILLS

SPANISH



ENGLISH



GERMAN



PYTHON



C#/C++ (ARDUINO)



JAVA



3D PRINTING



UNITY ENGINE



CAD, ECAD (FUSION, INVENTOR, ALTUM)



MICROSOFT SUITE



ADOBE SUITE



LABVIEW



HTML/MYSQL



SOLDERING



PCB DEVELOPMENT



CAREER HIGHLIGHTS

Master thesis:

Tiny Gesture Recognition Transformer (TGRT) for a HD-EMG and IMU powered control system.

Bachelor thesis:

Development of 3D-Printed Bionic Hand with Visual and Myoelectrical Control Mechanisms and Enhanced Dexterity

PROOFS OF LANGUAGE

TestDaF:

*Leseverstehen TDN: 4
Hörverstehen TDN: 5 Schriftlicher
Ausdruck TDN: 3
Mündlicher Ausdruck TDN: 5*

SAT (English): 1220 of 1600.

TOEFL (English): 103 of 120.