



Daniel DUCLOS-CAVALCANTI
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SUMMARY

An **American** and **Brazilian** computer scientist living in Munich, Germany. I have completed my bachelors degree in EE at TUM and am on my way to finish my masters at the very same university. Currently my interests lie in Operating Systems, Compilers, FPGA's and TinyML.

EDUCATION

M.Sc. - TECHNICAL UNIVERSITY MUNICH

Oct 2020 - PRESENT

MASTERS OF SCIENCE IN ELECTRICAL AND COMPUTER ENGINEERING

- **GPA**, 3.0 in American Standards, 2.5 in German Standards
- **Currently Enrolled in last Semester**

B.Sc. - TECHNICAL UNIVERSITY OF MUNICH

Feb 2017 - 2020 Sept

BACHELOR OF SCIENCE IN ELECTRICAL AND COMPUTER ENGINEERING

- **GPA**, 3.1 in American Standards, 2.2 in German Standards
- **Bachelor Thesis**, 1.3 in German Standards — Netlist Error Modeling
- **Unfinished Previous B.Sc.**, PUC-RIO, Brazil — 144/238 Credits from 2013 - 2016

EXPERIENCE

TU MÜNCHEN, EDA DEPARTMENT

Jul 2022 - Oct 2022 / Munich, Germany

WORKING STUDENT - RESEARCH STAFF

- **Python** development to automate and build a Design-Space-Exploration framework.
- Said framework is used to find optimal heterogeneous hardware configurations to run inference on given ML models.

MOLABO GMBH

Aug 2021 - Jan 2022 / Munich, Germany

WORKING STUDENT - EMBEDDED SOFTWARE ENGINEER

- Supervised the team's CI Pipeline via Jenkins and responsible for writing **Jenkinsfiles** to automate integration and development.
- Development of:
 - containerized unit tests in **C++** through gTest/**GoogleTest** with code coverage via gcov
 - embedded **C** code for microcontrollers, **VHDL** Modules for FPGAs
 - build Systems/toolchains written in **CMake**, **Make** with use of **Dockers**
 - **Python** and **Bash** scripts to automate development

TU MÜNCHEN, RCS DEPARTMENT

April 2021 - Aug 2021 / Munich, Germany

TUTOR - EMBEDDED SYSTEMS PROGRAMMING LAB

- Assisted students during their course work and their final project, which consisted of writing **FreeRTOS applications** in **C**.

TU MÜNCHEN, RCS DEPARTMENT

Oct. 2020 - Feb 2021 / Munich, Germany

RESEARCH INTERNSHIP

- Working with **Google's Edge Coral TPU**, benchmarking it's performance through the analysis of USB traffic during inference.
- Automated the training, freezing, inference and Hardware deployment of several ML Models through **Tensorflow**.

TU MÜNCHEN, LKN DEPARTMENT

Aug. 2019 - Dez 2019 / Munich, Germany

RESEARCH INTERNSHIP

- Testing, debugging and analyzing the behavior of a software switch implemented through the P4 programming language.

SKILLS, PROJECTS & CERTIFICATES

PROGRAMMING LANGUAGES	Experienced: C Python C++ Lua VHDL Intermediate: Golang Bash Rust Tcl Markdown HTML
SOFTWARE DEVELOPMENT	CMake GIT GNU Make Docker Jenkins(files) Travis CI Ansible
FRAMEWORKS & LIBRARIES	OpenMPI OpenMP Tensorflow GoogleTest PyTest SDL2 Python CFFI
SYSTEMS	Linux FreeRTOS Contiki OS Arch Linux Ubuntu
LANGUAGES	Native: English, Portuguese Fluent: German Beginner: Spanish
PROJECTS	Error Detection (VHDL/C) FreeRTOS Space Invaders (C) Serve: small cli/tui tool (golang)
CERTIFICATES	UCSD: Data Structures Fundamentals UT Austin: Embedded Systems - Microcontroller I/O