Daniel **Duclos-Cavalcanti**

Computer Engineer, American and Brazilian Citizen

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Education

TU München   *Munich, Germany*
Masters of Science in Electrical and Computer Engineering   *Oct 2020 - PRESENT*
- **Currently Enrolled**

TU München   *Munich, Germany*
Bachelor of Science in Electrical and Computer Engineering   *Feb 2017 - 2020 Sept*
- **GPA**, 3.1 in American Standards
- **GPA**, 2.2 in German Standards
- **Bachelor Thesis**, 1.3 in German Standards — Netlist Error Modeling

PUC-RIO   *RJ, Brazil*
Bachelor of Science in Electrical Engineering (**Unfinished**)   *Jan 2013 - 2017 Jan*
- **144 of 238**, Credits Completed
- **Hochschule Furtwangen University**, Furtwangen, Germany — *Year Abroad 2017*

Skills and Languages

Code	**C** (High), **C++** (Interm. - High), **Go** (Interm.), **Python** (Interm.), **Lua** (High), **Haskell** (Low), Bash, POSIX Shell, VHDL
Languages	English (**Native**), German (**Fluent**), Portuguese (**Native**), Spanish (**Basic**)
Tools	Docker, GNU Make, CMake, Git, Linux, Ansible, Jenkins CI, Travis CI, gTest, PyTest
Systems	FreeRTOS, Contiki OS, Linux
Protocols	MQTT, CoAP
Personal Projects	FreeRTOS Space Invaders (**C**), go-menu (**golang**) - Github

Experience

TUM, EDA Department   *Munich, Germany*
Working Student - Research Staff   *Jul 2022 - Now*
- Work consists of aiding in various research projects currently being pursued by the department. Varies on a project to project basis.
- Currently responsible for development in Python to automate and build a design space exploration framework used to find optimal heterogeneous hardware configurations to run inference of a given ML model.

Molabo Gmbh   *Munich, Germany*
Working Student - Embedded Software Engineer   *Aug 2021 - Jan 2022*
- Development of
  - containerized unit tests in C++ through gTest/GoogleTest
  - embedded C code for microcontrollers
  - VHDL Modules for FPGAs
  - build Systems and toolchains written in CMake and Make using Dockers
  - CI pipelines through Jenkinsfiles and groovy scripts
  - Python and Bash scripts to automate development.
- Supervision of:
  - the team's CI Pipeline using Jenkins.

TU München   *Munich, Germany*
Tutor - Embedded Systems Programming Lab   *April 2021 - Aug 2021*
- Assisted students during their course work and their final project, which consisted of writing FreeRTOS applications in C.

TU München, RCS Department   *Munich, Germany*
Research Internship   *Oct. 2020 - Feb 2021*
- Assisted a doctorate candidate on his work with tinyML research.
- Worked with Google's Edge Coral TPU, where I benchmarked it's performance on the inference of several Machine Learning Models.
- Automated the training, freezing, inference and Hardware deployment of several ML Models.

Projects and Certificates

Projects

- **FreeRTOS Space Invaders:**
    - Implemented a replica of Space Invaders as a FreeRTOS application written in C.
    - Goal was to simulate how multithreaded applications work on embedded devices.
- **go-menu:**
    - Simple CLI tool based on the tcell golang library
    - serves as a command-line menu system to choose between different options

Certificates

- **UCSD: Data Structures Fundamentals**

- **UT Austin: Embedded Systems - Shape the World: Microcontroller I/O**

- **Goethe C1 German**