Daniel Duclos-Cavalcanti

duclos-cavalcanti duclos.dev me@duclos.dev New York, NY U.S. Citizen Eng, German & Portuguese

Summary

As an American Computer Engineer from the Technical University of Munich, I have cultivated a global perspective, being born in the U.S., raised in Brazil and educated in Germany. My passion for impactful projects that improve people's lives drives my motivation and dedication. My ability to navigate both technical challenges and interpersonal dynamics makes me an exceptional asset to any organization. Currently based in New York, I am completing a master's degree through a research collaboration with Dr. Sivaraman at NYU.

Education

Technical University of Munich Munich, Germany & New York, USA
M.Sc. Electrical and Computer Engineering *Oct 2020 – **Sept 2024***

- M.Sc. Thesis: **"VM Selection Heuristic for Financial Exchanges in the Cloud"**
- Co-Advised by: Dr.Sivaraman from NYU and Prof. Dr.-Ing. Kellerer from TUM
- **New York University: Courant Institute of Mathematical Sciences** Sept 2023 – May 2024
  - Visiting Non-Degree Graduate Student
  - Co-Authored: Jasper: Fair Multicast for Financial Exchanges in the Cloud – *(paper)*
  - CSCI-GA 2250 - Operating Systems - A
  - CSCI-GA 3033 - Technologies for Finance

Technical University of Munich Munich, Germany
B.Sc. Electrical and Computer Engineering *Oct 2016 – Sept 2020*

- **German GPA:** 2.2 (Top 37%) – See Grade Distribution

Skills

Languages: C, C++, Python, Golang, Rust, Lua, VHDL, Tcl, JavaScript, HTML/CSS
Tools: Terraform, Docker, Packer, AWS, GCP, Git, Unix Shell, Makefile, CMake, Linux, Jenkins
Technologies: Cloud Computing, Computer Networking, Embedded Systems, FPGAs, RTOS, Machine Learning, HPC
Frameworks/Libraries: ZeroMQ, DPDK, Tensorflow, TFLite, Pytest, GTest, OpenMPI, OpenMP, Xilinx Vivado
Hardware: Raspberry PIs, Embedded Linux, ARM Cortex MCUs, USB, TCP, UDP, IP, UART, GPIO

Experience

EDA Department - TU Munich | *Research Assistant* Jul 22–Oct 22, Oct 20–Mar 21
Two-Part internship, where I aided in developing a research Design-Space-Exploration framework that needed to:

- Run optimally the inference of Machine Learning Models across heterogeneous hardware (GPUs, CPUs, TPUs).
- Analyze traffic costs via processing USB traffic between the host and Google's Coral Edge TPU.

Molabo GmbH | *Internship - Embedded Engineer* Aug 21 – Jan 22
Assisted the motor-drive team in developing:

- Streamlined workflows via Jenkinsfiles, CMake and GNU Make
- Features and Unit-Tests for their Embedded and FPGA Devices
- Internal Tooling such as a Linux virtual CAN interface to simulate communication within their systems

RCS Department - TU Munich | *Tutor - Embedded Systems Lab* Apr 21 – Aug 21

- Tutor for the Embedded Systems Programming Lab at TU Munich.
- Aided students in their embedded/multi-threaded FreeRTOS projects in C.

Projects

(16,11) Hamming-Code Err. Detection	*C, FPGA, UART, VHDL, SoC, Microsemi*
FreeRTOS-SpaceInvaders	*C, FreeRTOS, RTOS, Multi-Threaded, Git, Unix Shell*
Open-MPI-ValueIteration	*C++, HPC, OpenMPI, Multi-Threaded, Distributed Workload*
Serve CLI	*Golang, CLI, Tooling, UNIX*

Certificates

- UCSD: Data Structures Fundamentals
- UT Austin: Embedded Systems - uC I/O