

DAVID XCHEL MORALES HURTADO

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Results driven, Fast learning and team focused Functional Validation Engineer with 4 years of professional experience. Proficient in **Linux**, **Python** and **C++** development with a strong **Mathematics**, **Problem Solving** and **embedded systems** background. Versatile with a strong set of collaborative skills in **multicultural** teams. Focused on **Quality** and **performance** with a **mentoring** mindset targeted towards the continuous growth of the team. Proven expertise in the **enhancement** of robust **automation** and **testing** strategies using **Agile** methodologies and **CI/CD** pipelines.

PROFESSIONAL EXPERIENCE

Functional Validation Engineer

February 2021 — Present

Intel, Guadalajara

Developed, implemented and debugged tests for hardware functionality verification in hardware using **Linux** and **Python** while collaborating with a **multicultural** and **diverse** team from all around the world.

- Scripted and documented **python** and **bash tests** for debugging hardware in large code bases, in collaboration with a big team.
- Used **Agile** principles and methodologies with **CI/CD** pipelines for the proper maintenance of large projects.
- Developed a **testing plan** covering as many cases **efficiently** within a large array of features and memory populations, saving up to **50%** of testing time by batching configurations and tests for their coverage.
- Mentored** and **Trained** new employees, teaching them extra tools that can help with the efficiency at different activities within the job.
- Gained visibility with external teams within the company, which knew me as the **Point Of Contact** for any issue related to my team's area.
- Created automatic porting self testing **toolchain** using **PyTest** that instantly ported scripts and changes from old projects saving up to a day per port using **WSL** with **Bash** and **Python** taking advantage of their individual strengths.
- Created a script for **automatic** information **scraping** from a large batch of systems, helping get important information in just a few minutes when manually it could take up to 3 days, this was needed at least once a week.
- Managed** and was **responsible** for the pool of systems used by my team, including the setup and enabling of automatic testing depending on requirements needed using online platforms, PowerBI, ticketing systems for **automation**, **data analysis**, **visualization** and **issue tracking**.
- Reinforced **remote communication** skills as my job was 90% remote with people all around the world.
- Researched and **taught** very low level Memory RAS features to other members of my team.
- Gained **low-level** understanding of how a processor and its memory features work.

EDUCATION

Mechatronics Engineer

August 2015 — January 2021

Instituto Politecnico Nacional, Mexico City

During my studies I faced multiple obstacles and came out as one of the **top students** most of the time with **effort**, **curiosity** and **creativity** strengthened during my time at the Math and Informatics Olympiad, graduating with a grade of **87.8**.

Always focused on **teamwork** by **mediating** and **leading** when possible and delivering **quality** projects **efficiently**, with **documentation** skills gained on my activities within an optimization algorithms team.

- Built a custom Arch Linux system as a personal project and later for research during my thesis, which helped me understand deeply the **Linux OS** including knowledge in **compilers**, **services** and **shared libraries** with my personal projects.
- Recognition **neural networks** using Keras.
- Basic inventory system for a small store using **JavaFX** and **MySQL** and focused in the User Experience.
- Hanoi towers **C++** game using NCurses.
- File and database **processing** scripts using Python.
- Basic **SDL** and **Gtk4** programs.
- Small Web Applications using **HTML/CSS/JS**, **Flask** and **NodeJS** with **Selenium** testing.
- MIPS multi-cycle Verilog design and implementation with **UVM testbench** creation via python scripting.
- Several Hardware description and **PIC** advanced projects using **Verilog** and **Assembly** with sensors and actuators (VGA control, 4 octave piano, High power control circuits with sensors and cellphone communication).
- Modeling programs using **MatLab**.
- Several virtual reality experiences using **Unity** and **blender** with GPS and accelerometer implementation.
- Several Electrical circuits with the conditioning of sensors, filters and actuators like an electrocardiogram, motor controllers and PLC systems.
- Part **modeling** and **manufacturing** using **SolidWorks** and **Autodesk Inventor**.

Mobility program

February 2019 — June 2019

Universiti Malaya, Kuala Lumpur

Learned from one of the top renowned universities in the world while acquiring and **adapting** my experience working, communicating and leading people with **contrasting backgrounds** and **mindsets**.

Learned to create **virtual reality** projects using **Unity**, a **line follower** robot using **Raspberry Pi**, an **AI** project with hand tracking for deaf language letter detection, and manufacturing/environmental engineering processes in international contexts.

SKILLS

Languages	Tools	Soft skills	
Python	Linux	Leadership	Problem Solving
C/C++	Git/Github	Adaptability	Mathematics
Bash	Docker	Mentoring	Testing
Embedded Systems	AI	Communicative	Debugging
JavaScript	Cloud	Responsible	Agile
Java	Jenkins	Committed	Creativity
Verilog	Unity	Fast learner	Critical thinking
Assembly			

EXTRA-CURRICULAR ACTIVITIES

Mexican Mathematics Olympiad, OMM, Morelia Bronze award.	March 2013 — November 2014
Mexican Informatics Olympiad, COMI, Morelia Participation award.	January 2014 — May 2014
Scout, Mexican Scout Association, Morelia Participation in altruism and teamwork oriented activities	January 2014 — August 2015
Robot war staff, IEEE university branch, Mexico City Staff in planning and organization of international event.	July 2018 — July 2020
Emergency Response Helper, ERUM, Mexico Provided help during the 2017 Mexico city earthquake	September 2017 — October 2017

COURSES

Learning how to Learn, Oakland University	January 2025 — June 2025
Linux Essentials, Linux Professional Institute	January 2020 — April 2020
Introduction to Web Design	July 2020 — October 2025
Cloud Computing, Google Activate	November 2019 — February 2020
Intel x86 Processor & Platform Architecture, MindShare	January 2022 — June 2022
Mobile App Development, Google Activate	November 2019 — February 2020
Professional update: Pre-Silicon Verification, INAOE	October 2020 — December 2020

INTERNSHIPS

Quality Assurance, Aerial Canada, Mexico City	August 2020 — February 2021
Helped with finding and reporting code bugs in mobile video games by thinking outside the box and trying to find corner cases within the game as a user, treating it as a black box without access to the code.	

ADDITIONAL INFORMATION

Languages			
English	Spanish	Learning German	Learning French