

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
JavaScript	Embedded Systems	Communicative	Debugging
Typescript	AI	Responsible	Agile
Java	Cloud	Committed	Creativity
Verilog	Jenkins	Fast learner	Critical thinking
Assembly	Cloud		

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 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.	August 2020 — February 2021
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ADDITIONAL INFORMATION

Languages			
English	Spanish	Learning German	Learning French