Kyrian Weiss van der Pol

Aspiring QA Engineer | Data Analyst | Python Developer

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Dutch and Paraguayan

America/Asuncion Timezone

Resume PDF

LANGUAGES

Spanish (Native)
English (Fluent)
Dutch (Fluent)

Skills & Proficiency

Programming

Python (Automation & Data) | C++ (Embedded Systems) | Arduino IDE | ESP32 Firmware

QA & Test Automation

Manual Testing | Test Case Design | Selenium (UI Automation) | Postman (API Testing) | Bug Reporting | QA Fundamentals

Web Development

HTML5 | Tailwind CSS | SQL (Data Storage) | JSON (Data Format) | REST APIs | Lightweight Dashboards

Electronics & Embedded Engineering

Analog/Digital Circuit Design | Embedded Systems | Sensor Integration | PID Control | Soldering & Debugging | Sustainable Tech Solutions

Data Analysis & Visualization

Pandas | NumPy | Data Cleaning | Matplotlib | Exploratory Data Analysis | Insight Generation

Agile & Collaboration Tools

JIRA (Workflow) | Git (Version Control) | Mock Interviews | QA Documentation | English Proficiency

CAREER PROFILE

Motivated and **detail-oriented** aspiring **Quality Engineer** and **Data Analyst** with hands-on experience in *industrial electronics, embedded systems,* and *test automation.* Skilled in **Python**, **C++**, and microcontroller-based development, with a strong foundation in **quality assurance methodologies** and **data-driven decision-making**.

I bring a *methodical and analytical mindset* to every challenge, backed by real-world experience leading projects that combine hardware innovation with **sustainable technology**. From **award-winning science fair inventions** to **IoT-driven environmental systems** and collaborative **QA bootcamps**, I've developed a passion for building **reliable**, **testable**, and **impactful solutions**.

I'm eager to contribute to a team where I can apply my skills in **software quality**, **test automation**, and **process improvement** — while continuing to grow technically and professionally in *dynamic, problem-solving environments.*

EXPERIENCES

HEAD OF DEVELOPMENT – SMART BEEHIVE SYSTEM

2023-12 – 2024-02

T'POLLEKE BEEKEEPING (FAMILY COLLABORATION – NETHERLANDS)

- Designed and built a **smart, self-regulating beehive** during a visit to the Netherlands to assist a family-owned beekeeping business.
- Aimed to optimize **winter hive temperature** to reduce bee energy expenditure on survival and increase honey production in spring.
- Used an **ESP32 microcontroller** to collect and transmit sensor data, and to regulate heat output via an internal heating pad.
- Installed **four thermostats** (one per corner) for distributed thermal readings and a **humidity sensor** to monitor hive climate conditions.
- Collaborated with a **senior programmer** to evaluate and debate heating control strategies:
  - Considered a simple on/off threshold approach vs. dynamic voltage-based regulation.
  - Ultimately implemented a **voltage-controlled system** for smoother, more efficient thermal regulation.
- Diagnosed multiple **hardware issues**:
  - Identified a batch of **defective ESP32s**; escalated to supplier and secured replacements.
  - Troubleshot a **non-functional humidity sensor** with a multimeter; discovered a soldering defect and replaced the unit.
- Resolved **Wi-Fi connectivity issues** by deploying signal repeaters for **real-time remote monitoring**.
- Created a **live web dashboard** to monitor temperature and humidity metrics.
- Post-deployment (6-month impact):
  - **Significant increase** in bee population.
  - **Doubling of honey production** in the following spring.

CO-CAPTAIN & ROBOTICS PROGRAMMER

2022-08 – 2023-02

LEGO ROBOTICS COMPETITION – INTERNATIONAL STEM CHALLENGE

- Programmed an **autonomous robot** to clear obstacle courses using **iterative testing** and **real-time debugging**.
- Designed a **clean-energy project** with smart environmental features.
- Promoted **team collaboration**, **problem-solving**, and **value-based leadership** under competition pressure.
- Balanced **performance**, **reliability**, and **strategy execution** during technical implementation.

EVENT STAFF & SUPPORT (VOLUNTEER)

2023 – 2024

LEGO ROBOTICS COMPETITION – INTERNATIONAL STEM CHALLENGE

- Supported overall event logistics by **supervising matches**, coordinating **evaluation processes**, and ensuring **smooth competition flow**.
- Assisted with additional on-site responsibilities including **distributing water**, **reorganizing chairs**, and **preparing the event space**—contributing to a professional and efficient environment.
- Demonstrated strong **accountability**, **professionalism**, and a high level of **organizational awareness** throughout the event lifecycle.
- Cultivated a *QA mindset* by identifying operational gaps, proactively supporting teams, and maintaining a standard of excellence in all assigned and unofficial tasks.

QA TRAINEE

2024

MENTORMATE QA BOOTCAMP

- Completed a **full-time QA Bootcamp** with a focus on **automation tools** and **Agile methodology**.
- Hands-on with:
  - **Postman** (API Testing)
  - **Selenium** (UI Automation)
  - **JIRA** (Agile workflows & bug tracking)
- Learned **test case creation**, **defect reporting**, and **QA strategy**.
- Presented on **White Box vs. Black Box testing**.
- Participated in **mock interviews** and **English-language documentation**.
- Automated the end-to-end testing of a **Pet Adoption web app**.

EDUCATION

INDUSTRIAL ELECTRONICS TECHNICIAN

2022 – 2024

PARAGUAYAN INSTITUTE OF TELECOMMUNICATIONS (IPT)

- Completed a *rigorous technical program* under the Faculty of Engineering's School of Science and Technology (*FIUNA - IPT*).
- Gained strong theoretical and hands-on knowledge in:

  - **Core Electronics** – Analog Electronics, Digital Electronics, Power Electronics
  - **Programming & Automation** – C/C++ Programming, Arduino & ESP32, PLCs, Microcontrollers
  - **Electrical Systems** – Electrical Installations, Circuit Analysis, Safety Standards
  - **Instrumentation & Control** – Sensors, Measurement Systems, PID Control
  - **Communications & Networking** – Wi-Fi, IoT Fundamentals, Telecom Basics
  - **Support Skills** – Technical Drawing, Technical English, Project Management

- Designed and built an **automated grill** using Arduino and temperature sensors; won **1st place** in the *IPT Science Fair 2023*.
- Frequently used **multimeters**, **oscilloscopes**, and **soldering stations** during labs and final projects.
- Collaborated on group-based technical presentations simulating *real-world engineering environments.*

HIGH SCHOOL DIPLOMA

2018 – 2021

CENTRO EDUCATIVO SAGRADO CORAZÓN DE JESÚS

- Specialized in *science and technology* with emphasis on **mathematics**, **physics**, and **logical reasoning**.
- Participated in academic competitions and activities including **computer science**, **debate**, and **student council**.
- Developed early passion for **automation and electronics** through science fair projects.

PRIMARY EDUCATION

2013 – 2017

CENTRO EDUCATIVO SANTA CAROLINA

- Completed foundational studies with focus on *literacy, math,* and *values-based learning.*
- Engaged in school-wide **cultural** and **science activities**, setting the foundation for future STEM pursuits.

CERTIFICATIONS

INTRODUCTION TO QA & QA AUTOMATION

2024

Ivan Weiss Bootcamp
Completed a comprehensive, self-paced program designed to transition learners from foundational QA concepts to advanced automation techniques. The curriculum encompassed:

- **Quality Assurance Fundamentals**: Understanding QA principles, software development life cycle (SDLC), and various testing methodologies.
- **Python Programming**: Gained proficiency in Python, focusing on its application in test automation scenarios.
- **Automated Testing Tools**: Hands-on experience with tools like Selenium for browser automation and RESTful API testing.
- **Test Case Design & Bug Tracking**: Developed skills in creating effective test cases and managing defects using industry-standard practices.
- **Version Control with Git**: Collaborated on projects using Git for version control and code management. Repository: https://github.com/IvanWeissVanDerPol/Introduction-to-QA-and-QA-Automation-Beginner-to-Expert

DATA SCIENCE WITH PYTHON

2024

Penguin Academy
Engaged in a 5-week intensive course focusing on Python's role in data science. Key learnings included:

- **Data Cleaning & Transformation**: Utilized libraries like Pandas and NumPy to preprocess and clean datasets.
- **Data Analysis & Visualization**: Applied statistical methods and created visualizations using Matplotlib to derive insights from data.
- **Real-World Applications**: Worked on projects involving real-world datasets to solidify understanding of data science concepts.
- **Problem-Solving Skills**: Enhanced analytical thinking and problem-solving abilities pertinent to QA data validation and automation tasks.

ISTQB CERTIFIED TESTER – FOUNDATION LEVEL (PLANNED)

2025

International Software Testing Qualifications Board (ISTQB)
Preparing for the ISTQB Certified Tester Foundation Level (CTFL) v4.0 certification, aiming to solidify foundational knowledge in software testing. Areas of focus include:

- **Testing Fundamentals**: Understanding the principles and processes of software testing.
- **Test Design Techniques**: Learning various test design techniques to create effective test cases.
- **Test Management**: Gaining insights into managing test activities and resources efficiently.
- **Tool Support for Testing**: Exploring tools that support testing activities, enhancing efficiency and effectiveness. Certification goal set for 2025 to formalize QA knowledge and enhance professional credibility.

PROJECTS

A selection of personal and science fair projects demonstrating technical skills in automation, embedded systems, web development, and real-world problem solving.

SELF-WATERING SYSTEM FOR PLANTS

2022

- Designed and built a **low-cost automated irrigation system** using analog soil moisture detection via **electrode probes**.
- Controlled a **water pump** through a relay based on moisture sensor input; system activated watering when soil dried beyond threshold.
- Applied early **QA analysis** post-build to identify a key limitation—**risk of overwatering**—and proposed integration of additional **environmental sensors** (*humidity, light, temperature*) for smarter decision-making.
- Gained foundational experience in **circuit design**, **sensor logic**, and **iterative hardware improvement**.

AUTOMATED GRILL

2023

- Developed a **fully automated gas-powered grill** using an **Arduino Mega**, **matrix keypad**, **LCD interface**, and **AC motor**.
- Enabled user control over **cook time**, **grill rotation frequency**, and **target temperature** through a **customizable input interface**.
- Integrated an **electrovalve** and **spark ignition system** to automate flame control, with **safety logic** for shutoff upon timer expiration.
- Resolved **hardware challenges** during development, including **torque inadequacy** (solved with a higher-power AC motor) and **electrical interference** from the 220V ignition system (resolved via **circuit isolation**).
- Conducted **QA testing** to ensure reliability of **timer logic**, **motor rotation control**, and **flame ignition safety** under varied load conditions.
- Awarded **1st place** at a *regional science fair* for **engineering innovation** and **automation reliability**.

MEDICAL TRACKER (REMOTE HEALTH MONITOR)

2024

- Created a **remote healthcare monitoring system** for elderly patients using a wearable **ESP32-based bracelet** and a **Raspberry Pi-powered web server** housed in a **3D-printed bear**.
- Sensors on the wearable tracked vital signs: **heart rate**, **blood oxygen (SpO_2)**, and **body temperature**; data was transmitted in real time via **JSON over Wi-Fi**.
- Raspberry Pi served both as a **local monitor** (via onboard display) and as a host for a **live web dashboard** accessible by doctors and caregivers.
- Built a **lightweight UI** using **HTML**, **Tailwind CSS**, and **SQL backend**; rapidly self-learned necessary web technologies to complete project goals.
- Designed system to assist *non-specialist caregivers* and reduce workload in *understaffed senior care homes*, inspired by *pandemic-related challenges.*
- Applied **QA techniques** including **simulated sensor data testing**, **connectivity fault simulation**, and **user feedback testing** for *non-technical accessibility.*