Iris Vandenberg Junior Rust Developer

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PROFILE SUMMARY

- **Junior Rust Developer** with **2 years** writing **embedded and systems Rust** for clients of a **Rust consultancy**, after **3 years of embedded C** on industrial machine controllers.
- Builds in **Rust** and **C**, with **Embassy** and **embedded-hal** on **STM32 and nRF52** chips, **Tokio** for gateway services, and **probe-rs** and **defmt** for flashing and logging.
- Strong in **no_std firmware**, **safe wrappers over C vendor SDKs** and **porting C drivers to Rust**, and adds **proptest** and **cargo-fuzz** tests to every parser before it ships.
- Works with **hardware engineers**, **client firmware teams** and **test technicians**, and joins **client design reviews** in Dutch and English.
- Co-maintains the company's **embedded Rust training exercises**, published an **embedded-hal sensor driver crate**, and reviews pull requests from **2 interns**.

TECHNICAL SKILLS

Languages:	Rust, C, Python, Bash
Async & Networking Crates:	Tokio, serde, postcard, rumqttc (MQTT)
Systems & Interop:	unsafe Rust, bindgen, heapless, critical-section
Wasm & Embedded Tooling:	no_std, embedded-hal 1.0, Embassy, probe-rs, defmt, STM32 and nRF52 HALs
Testing & Verification:	cargo test, defmt-test, proptest, cargo-fuzz, hardware-in-the-loop rigs
Profiling & Observability:	criterion, cargo-bloat, RTT logging, power profiler, logic analyzer
Build, CI & Supply Chain:	Cargo, clippy, rustfmt, cargo-deny, GitHub Actions, Docker

EDUCATION

Eindhoven University of Technology — **B.Sc. in Electrical Engineering** — Eindhoven, Netherlands · Sep 2018 to Jul 2021

WORK EXPERIENCE

Tweede golf — **Rust Engineer** — Nijmegen, Netherlands · Sep 2024 to Present

- Wrote **no_std** firmware in Rust with **Embassy** async tasks for a client's nRF52 battery sensor, sleeping the radio between readings and cutting average current draw from 41 to **12 microamps**.
- Ported a client's energy meter driver from C to Rust over a **bindgen** wrapper of the vendor SDK, keeping unsafe at the SDK boundary, and field bug reports dropped from 9 a quarter to **1**.
- Published an **embedded-hal 1.0** driver crate for a humidity sensor, with async and blocking APIs behind feature flags and examples for 2 boards, now used in **4 client projects**.
- Added **proptest** properties and a **cargo-fuzz** harness to the Modbus frame parser that 3 client projects share, finding **6 panics** on malformed frames before any device shipped.
- Built a **Tokio** gateway that collects device readings over MQTT with bounded channels and borrowed, zero-copy **postcard** decoding, handling **8,000 messages a second** on a small ARM board.

Sioux Technologies — **Embedded Software Engineer** — Eindhoven, Netherlands · Aug 2021 to Aug 2024

- Wrote C firmware for **Arm Cortex-M** motor controllers in industrial machines, shipped in **12,000 units** across 3 customer product lines.
- Cut boot time on a controller board from 1.9 s to **420 ms** by reordering peripheral setup and moving flash checks after startup.
- Rewrote the interrupt-driven ring buffer in Rust as a no_std side project the team adopted, removing **2 race conditions** the C version had.