Manuel Bracchi

Frontend & Platform Engineer — Real-Time Robot Operations Software

manuelfbracchi@gmail.com | linkedin.com/in/manuelbracchi | Buenos Aires, Argentina (remote, open to relocation)

SUMMARY

Frontend and platform engineer with 9+ years in robotics (6+ as a software engineer), building the software people use to run robots in production. I own a React/TypeScript operations studio with live maps, teleoperation and dispatch, plus the real-time messaging and Kubernetes infrastructure underneath it. I also have hands-on hardware experience (PLCs, PCB design), so I'm comfortable where interfaces meet physical machines.

EXPERIENCE

Software Engineer — robot.com (Kiwibot)

Jul 2022 – Present · Remote from Buenos Aires · Robot fleet operations platform

- Architected and own **Studio**, the robot operations web app (React, React Router, TypeScript) covering teleoperation, live mapping, dispatch, call handling and maintenance. Used daily by ~220 operators to run a fleet of **747 registered robots** running ~2,000 jobs per weekday (~1,200 of them deliveries).
- Built low-latency teleoperation and audio/video/control streaming on **WebRTC** between remote operators and robots in the field, with robust reconnection handling.
- Led the migration of the robot telemetry pipeline from WebSockets to **MQTT**, improving reliability and scalability. The pipeline now ingests ~27M messages per weekday, with 5-minute peaks of ~600 msg/s inbound and ~1,800 msg/s delivered to subscribers.
- Deployed and operate platform services on **Kubernetes (GKE)**: rollout strategy, secrets and service configuration for a continuously connected fleet.
- Drove architecture and reliability decisions that contributed to a **30% reduction in operating costs**.
- Stack: TypeScript, React, Node.js, Drizzle ORM, PostgreSQL, Redis, MQTT, NATS, WebRTC, Kubernetes.

Full-stack Developer — EVA Robotics & Retail

Aug 2020 – Aug 2021 · Argentina · Automated retail

- Built end-to-end software for a live automated convenience store: a React self-service kiosk with real-time MQTT communication to store hardware, integrated with Siemens PLC industrial controllers.
- Connected the kiosk to a CMS for live content and inventory management; owned delivery from PLC integration to UI polish.

Independent Contractor (Software & Electronics) — Chalin Tech

2020 – 2022 · Remote · Educational robotics

- Built a React web IDE for an educational robotics kit, making coding approachable for kids.
- Designed the kit's main board schematic and PCB layout, bridging embedded hardware and software.

R&D and Robotics Instructor — RobotGroup Argentina

Apr 2017 – Oct 2020 · Part-time · Buenos Aires · Educational robotics

- Built small demo educational robots used to showcase the company's capabilities to clients.
- Taught robotics and microcontrollers as an instructor (Apr 2017 – Dec 2019).

SKILLS

Frontend: TypeScript, JavaScript, React, React Router, Next.js, React Native, Svelte, real-time UI state and live data

Real-time: MQTT, WebSocket, WebRTC, NATS, REST

Platform: Kubernetes (GKE), Docker, CI/CD, monorepo tooling, PostgreSQL, Redis, Drizzle ORM, Node.js (TypeScript)

Hardware: Siemens PLC integration, PCB design and schematics, embedded electronics, robot telemetry and control

EDUCATION

Self-taught in software and electronics engineering. Professional experience in robotics since 2017 and in software engineering since 2020.