Andrei Ionescu

Industrial software engineer · 16 years from PLC control to plant-wide MES software · Founder of Andon

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PROFILE

Sixteen years of software that runs production. PLC control for robotic glass lines on four continents. MES integration and a Europe-wide logistics system for process and paper plants. A Python platform and cutting optimizer in production 24/7 at a float-glass plant for two years. Andon, founded in 2026, offers that experience to operations teams as visibility, insight, reporting and optimization software.

EXPERIENCE

Aug 2026 – present

Andon, Brașov · remote

Founder & Principal Engineer

- Builds operational visibility software: MES-style visibility, insight, reporting and optimization on top of the systems an operation already runs; AI agent platforms and infrastructure where they serve the client.
- Delivered a Relay implementation for a logistics and retail company: an isolated AI agent platform for internal operations, single sign-on federated to Microsoft Entra, a documentation platform, backups, and a public website with an employee portal.
- Built PalletPilot, a cell management system for a robotic palletizing cell, as a live public demo.

Mar 2022 – Aug 2026

I-Scan Robotics · Friendly Parking Systems

Full-Stack & Automation Engineer

- Co-designed and built, in a team of two, a multi-process Python platform: independent nodes over ZeroMQ with built-in logging and monitoring; Siemens S7 PLC nodes; database, historian, FTP, email, SMS, scheduler and redundancy nodes; Flask, later FastAPI, HMIs; YAML configuration; PostgreSQL.
- Led the rebuild of the cutting optimizer for Saint-Gobain float glass, replacing a VB6 system: it sequences the plates cut from the ribbon against product requirements, inspection defects and stacking capacity to minimize glass loss, and drives the routing and cutting PLCs. Two years in production at a 24/7 plant with six robots.
- Rebuilt the automated-parking stack of Friendly Parking Systems on the same platform: AGV communication, EV charging, reports and the link to the central system, full stack from infrastructure tooling to the UI.
- Delivered PLC-based cell management systems for new robot cells on existing lines, with their front ends built on the platform.

Jul 2015 – Apr 2022

Honeywell Process Solutions, Bucharest

Lead Engineer, 2018 – 2022 · Senior Integration Engineer, 2015 – 2018

- Integrated Honeywell MES software for oil, gas and process plants on the Uniformance PHD historian (shutdown analysis, operations management, alarm management): configured each product for the client, then installed, interconnected and acceptance-tested it on site for Saudi Aramco, Shah Gas (UAE) and European operators. C# / .NET, SQL Server.
- Built custom scripts and software to provide clients with tailor-made solutions for monitoring data and providing insights into their process, relying on historical data coming from the process itself through the PHD historian to alert on and monitor production for clients in the oil & gas and aerospace industries.

- Led for three years the development of a logistics and supply-chain system for Stora Enso, one of Europe's largest paper manufacturers: architecture, code, releases, customer contact and deployments, every release client-validated on staging before production. Two service centers planned deliveries from 20+ European mills with it.

Apr 2010 – Jul 2015

I-Scan Robotics, Bucharest and on site

Control Engineer, PLC and robotics

- Programmed and commissioned the control systems of cold-end glass-handling lines, on site about 70% of the year in Egypt, Israel, China, India and the United States.
- Took over a non-functional ladder-logic cell management system for a Kawasaki Condor Flex cell, two 7-axis robots stacking separately or together on jumbo trolleys, made it work and introduced structured text (SCL).
- Adapted that cell management system across line types: fast solar lines picking air side and tin side, lines over 5 m wide with robots on both sides, lines with more than ten robots, and Titan robots with payloads above 1,000 kg.
- Owned the line routing logic and custom PLC modules, and maintained and integrated the VB6 cutting-optimization software with its SQL Server databases: scripting, mirroring, backups and reporting.
- Carried full control responsibility for an offline cutting line with four robots over a one-and-a-half-year project: routing, cell management, cutting and separation.
- Contributed process flow and safety protocol design to the founder's automated car-parking startup.

CAPABILITIES

Industrial automation. Siemens S7 (Step 7, TIA Portal, SCL and ladder), Allen-Bradley RSLogix 5000, WinCC, Simotion and Lenze drives, KUKA and Kawasaki robot integration, OPC UA, MQTT, Snap7, on-site commissioning and acceptance testing.

Software. Python (FastAPI, Flask, SQLAlchemy, ZeroMQ, pytest), TypeScript (SvelteKit, Svelte 5), C# and .NET, SQL (PostgreSQL, SQL Server, T-SQL), multi-process and message-driven architectures, HMIs and dashboards.

Data and infrastructure. Docker Compose, Linux servers, Proxmox, nginx and WireGuard edges, Authentik SSO with Microsoft Entra federation, Forgejo CI, Proxmox Backup Server, structured logging and monitoring.

AI platforms. Isolated agent platforms (headless Claude Code in sandboxed, network-contained runtimes), agent workflows on a code forge, secrets with sops and age, egress auditing.

EDUCATION

2005 – 2009

BSc Automation and Applied Informatics

Politehnica University of Bucharest, Faculty of Automatic Control and Computers

LANGUAGES

Romanian, native · English, fluent · German, beginner

BEYOND WORK

My favourite thing in the world is spending time with my beautiful family. Aside from that I also enjoy engaging in sports, as I have been training CrossFit for two years, with the occasional Spartan race. To indulge my nerdy side, which any respectable engineer must have, I have fun building home automations and tinkering with custom-built sensors in the Home Assistant ecosystem. Finally, I have been a 3D printing enthusiast since building a Prusa Mendel90 in 2014; recently I am back at it with a Bambu Lab P2S, building fun projects, functional parts, organizers and toys for my kids.