

Ilie Beleniuc

Full-stack Developer · TypeScript, React, Node.js, Python · data and forecasting

Chişinău, Moldova beleniuc.ilie@gmail.com github.com/iliev-blnc

Full-stack developer on a logistics SaaS platform: Next.js / tRPC portal, NestJS API, SQS consumers and a shared Prisma data layer. Outside work I build forecasting and data projects end to end, from ingesting public data to models backtested against real baselines to a live page that updates itself every day. Two open-source libraries on npm. Computer engineering student; Romanian and Russian native, English C1+.

Experience

VerifiedCarrier · Full-stack Developer · verifiedcarrier.com

Feb 2026 – Present

Platform US freight brokers use to vet and monitor motor carriers. pnpm monorepo: Next.js 15 portal (React 19, tRPC 11), NestJS API, AWS SQS consumers and cron jobs, shared core library on Prisma and MySQL.

- Ship features end to end across the monorepo: Prisma schema and migrations, NestJS and tRPC endpoints, SQS consumers and React UI, released as coordinated changes across several repositories.
- Own key parts of broker–carrier onboarding: invitations, automated re-invite and reminder cadences, and approval workflows for changes to carrier data.
- Moved the platform's transactional email onto event-driven Customer.io campaigns and built scheduled reporting jobs on SQS cron consumers.
- Built audit and admin tooling, including a full membership history recorded on every write path and exposed through the API.
- Rebuilt the carrier investigation report as a server-generated PDF and reworked portal settings and navigation for broker accounts.

Incraver Software · Software Engineer

Oct 2024 – Aug 2025

- Fixed bugs and built small features in a React and TypeScript web application, working through code review in an Agile team.
- Wrote unit tests and REST endpoints, and took part in sprint planning, stand-ups and demos.

MindCTI · Junior Developer · mindcti.com

Nov 2023 – Sep 2024

Backend development on a telecom billing platform.

Data and forecasting

holdshort · Rust, Python, TypeScript

holdshort.pages.dev · [write-up](#)

Digital twin of Istanbul Airport airspace from open ADS-B data: a browser replay, two forecasts and approach anomaly detection, with a technical write-up of what worked and what did not.

- Rust CLI streams the 4 GB/day public ADS-B archive without writing it to disk and compacts each day to Parquet with METAR weather; a rules engine turns positions into arrivals, departures, runways, go-arounds and holds (1,282 movements/day against the airport authority's published 1,449).
- LightGBM landing-time forecast at 40 nm: 1.39 min mean error vs 1.90 for the best baseline, exported to ONNX and served from Rust with parity tests. The hourly-arrivals model did not beat a 7-day baseline, and the report says so.
- Unsupervised approach anomaly detection (nearest-neighbour on resampled paths, plain Rust) compared against three detectors: an isolation forest and the forecast's error ranked holds and go-arounds better, which the write-up reports with a post-test correction; it surfaced rare north-east entries and a go-around the rules missed.

grid.md · Python, TypeScript

iliev-blnc.github.io/grid.md

Day-ahead hourly electricity load forecast for Moldova, published every morning in English, Romanian and Russian and scored against the grid operator's own plan.

- LightGBM quantile regression with a rolling conformal correction; over a one-year test, 8.6% MAPE vs 18.7% for the operator's plan, with the 90% range covering 88.4% of hours.
- Estimated ≈668 MW of rooftop solar the operator cannot meter; the method matches the national energy agency's 2024 total within 1%. Seven-chapter data story on Moldova's grid, 2021–2026.
- Runs unattended: systemd timer ingests, retrains monthly, forecasts, scores and commits; the page redeploys on GitHub Pages.

The 2026-27 Champions League simulated 10,000 times after every matchday, with a "what if" mode that re-runs every season in the browser in about a second.

- Hierarchical Dixon–Coles model fitted on 32,000 matches from 18 leagues and UEFA competitions; strength uncertainty carried into every simulated season.
- TypeScript engine with UEFA's full tiebreaker rules reproduces the official 2024-25 and 2025-26 tables exactly; the same code runs in Node and in a Web Worker.
- Out-of-sample ranked probability score 0.197 vs 0.217 for Elo on 558 Champions League matches. A daily GitHub Action commits each prediction before kick-off.

Open source

• Turns a phone into a remote for any web page through a long-poll relay that survives throttled background tabs; runs on Node or a Cloudflare Durable Object, with end-to-end tests in CI.

• Renders web pages to video frame by frame with Playwright and ffmpeg, identical every time: pages expose seek(t) or run unchanged on a virtual clock (timers, requestAnimationFrame, Date, Math.random).

Projects

- Scroll story of one night in Chişinău: 6,909 OpenStreetMap roads drawn as a long exposure in WebGL2, up to 6,000 cars driving the real road graph, and an isometric SVG panel block whose 144 flats switch on and off with the hour.
- Astro and GSAP, one scroll-driven clock for every layer; 60 fps on integrated graphics.

Software for a youth volunteer organisation in Chişinău.

- Next.js 15, Drizzle and Turso: volunteer passports, QR-verifiable certificates, hours tracking, event check-in and an impact dashboard.
- Public site in React 19 and Vite, Romanian and Russian, with registration and donations; payment endpoint on a hardened Debian VPS behind Caddy.

Technical skills

Languages	TypeScript, JavaScript, Python, SQL, Rust, Solidity, R
Frontend	React, Next.js (App Router), React Native / Expo, Vue.js, Tailwind CSS, shadcn/ui, Radix UI, TanStack Query, React Hook Form, Redux, FullCalendar, Vite, Astro
Backend & data	Node.js, NestJS, tRPC, Hono, Django, REST APIs, Zod, Prisma, Drizzle, PostgreSQL (Neon), MySQL, SQLite / Turso, Redis, Better Auth, OAuth integrations
AI & ML	PyTorch, pandas, polars, LightGBM, ONNX Runtime, quantile regression, conformal intervals, Monte Carlo simulation, backtesting, ML pipelines, Vercel AI SDK, OpenRouter, Vertex AI, Composio, AI agents and tool calling, RAG, embeddings, faster-whisper
Graphics & maps	WebGL2, MapLibre, deck.gl, SVG, GSAP
Cloud & infra	AWS (SQS, S3), Google Cloud Platform, Vercel (incl. Blob), Cloudflare Workers, Durable Objects and Pages, GitHub Pages, Linux (Caddy, systemd)
Integrations	Stripe, Clerk, Customer.io, Resend, Ably, n8n, Telegram bots
Tooling & docs	Git, GitHub Actions, pnpm workspaces, Turborepo, Biome, Sentry, Fumadocs, MDX, OpenAPI, SDK development
Testing & media	Vitest, Jest, React Testing Library, Playwright, Puppeteer, Remotion, ffmpeg

Education

FIESC, Ştefan cel Mare University of Suceava · fiesc.usv.ro

Associate degree, Psychology & Education

2023 – 2025
Ştefan cel Mare University of Suceava · usv.ro

Other experience

“Petru Rareş” National College, Suceava · cnprsv.ro

Radio “Vocea Speranţei” · rvs.ro