

Ilie Beleniuc

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

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

Full-stack developer who builds web apps from the database to the UI. I also make creative and data work: WebGL pieces like a fluid simulation drawn in characters and a night map of Chişinău, and forecasts and simulations with live public pages. Final-year 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, approvals of data changes.
- Moved 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 broker portal settings and navigation.

Incraver Software · Software Engineer

Oct 2024 – Aug 2025

- Built a full-stack browser game in a team of four and presented it at the company's HQ: React and TypeScript front end; FastAPI, SQLAlchemy and SQLite back end with WebSockets for real-time updates.
- Split the work into tasks and coordinated the team; delivered on schedule with features beyond the original brief.

MindCTI · Junior Developer · mindcti.com

Nov 2023 – Sep 2024

Convergent billing and customer care software for telecom and unified-communications providers (MINDBill), Suceava development centre.

- Backend work on usage processing: call and data records rated against each customer's tariff plan before invoicing.
- Wrote SQL accuracy checks and reports across rated usage, subscriptions and invoice totals, so billing errors were caught before invoices went out.

Data and forecasting

holdshort · Rust, TypeScript, Python

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) benchmarked against three other detectors; 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 on a systemd timer: ingest, monthly retrain, forecast, score, commit, redeploy.

cutline · TypeScript, Python

iliev-blnc.github.io/cutline

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 on 32,000 matches from 18 leagues; a TypeScript engine with UEFA's full tiebreakers reproduces the 2024-25 and 2025-26 tables exactly.
- 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

parlo · TypeScript, whisper.cpp · npm github.com/iliev-blnc/parlo

Offline live captions and translation for talks: the projector shows captions, phones follow in Romanian, Russian or English.

- Streaming on top of Whisper with LocalAgreement-2 (words commit once two passes agree), Silero VAD and sentence-level M2M100 translation; captions on screen 0.5–0.9 s after each sentence ends (p50).
- FLEURS benchmark in real time: 12–17% WER; M2M100 beat a local 3B LLM by 6–13 chrF on 5 of 6 pairs, so the LLM is opt-in.

pagepad · TypeScript · npm npmjs.com/package/pagepad

- 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.

pagereel · TypeScript · npm npmjs.com/package/pagereel

- 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).

tally · TypeScript, ONNX Runtime Web iliev-blnc.github.io/tally

- Street counter in the browser: YOLOX and D-FINE on WebGPU in a worker, a ByteTrack-style tracker and counts per line and direction. 9% count error against human labels on held-out UA-DETRAC footage.

Creative coding

ink · TypeScript, WebGL2 github.com/iliev-blnc/ink

- Ink in water drawn in characters: stable fluids in WebGL2 rendered as glyphs; no dependencies, under 8 KB gzipped.

Chişinău after dark · TypeScript, WebGL2 iliev-blnc.github.io/after-dark

- Scroll story of one night in Chişinău: 6,909 OpenStreetMap roads drawn as a long exposure in WebGL2, 6,000 cars on the real road graph and 144 flats that light up with the hour; Astro, GSAP, 60 fps on integrated graphics.

Portfolio · TypeScript, WebGL2 iliebeleniuc.pages.dev

- ink behind the page, thinning out around the text; the 404 is Mars in coloured ASCII that clears to the photo under the cursor.

Projects

TinSerV Platform · TypeScript, Next.js tinserv.site

- For a youth volunteer organisation in Chişinău. Next.js 15, Drizzle and Turso: volunteer passports, QR-verifiable certificates, hours, event check-in; public site with registration and donations.

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
Creative coding	p5.js, WebGL2 and GLSL shaders, Canvas 2D, SVG, GSAP, Lenis, Astro, fluid simulation, ASCII and glyph rendering
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
Maps	MapLibre, deck.gl, Protomaps, OpenStreetMap / Overpass
Motion & print	pagereel, Remotion, ffmpeg, Affinity, generative posters and print textures in Python (NumPy, Pillow), print-ready PDF
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	Vitest, Jest, React Testing Library, Playwright, Puppeteer

Education

B.Eng. Computers 2023 – 2027
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

Substitute Teacher Oct 2025 – Jan 2026
“Petru Rareş” National College, Suceava · cnprsv.ro

Apprentice Jun 2025 – Aug 2025
Radio “Vocea Speranţei” · rvs.ro