Artemy Urodovskikh

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github.com/R2BPW · r2bpw.works

Education

MSc in Computer Science *2022*
Moscow Institute of Physics and Technology (MIPT).
Thesis: Visualization algorithms for large-scale route data on maps.

BSc in Software Engineering *2020*
MIREA — Russian Technological University.

Professional Experience

Backend Team Lead *May 2018 — present*
Bolshaya Troika, Moscow. 8+ years.

Core product: regional-scale waste-management platform (Python/Django, PostgreSQL, ClickHouse) for government clients in Russia and Kazakhstan. Multi-tenant deployments with per-region data residency. Team of five engineers within a 40-developer codebase. Specifications, delegation to engineers and AI agents, code review, production integration.

- Designed a route-planning system from scratch: task queue, custom TSP solver for 10,000+ waypoints per district; ~1,200 routes/day in production since 2022.
- Built a billing system for 1M+ individual payers: tariff calculation, accruals, invoices, memory-optimized batch printing.
- Redesigned the planning subsystem: from one plan per waste site to per-container planning with vehicle-property awareness.
- Implemented two-leg hauls: independent documentation per vehicle, cascading reconciliation on route dropout.
- Integrated with 1C fleet management: schedule sync latency ~5 s → ~1.5 s.
- Migrated S3 file storage between providers with zero downtime via field-level routing.
- Fleet telemetry: ClickHouse PostGIS sync layer, GPS filtering heuristics recovering movement geometry from drifting streams.
- Scale: hot OLTP tables 500M+ rows, ~370M GPS samples/month from 5.7k trackers, 25B-record ClickHouse archive.
- Query optimization: non-blocking index creation, N+1 elimination, nested-loop → hash anti-join on a 280M-row table.

Logistics Algorithms and Visualization *2020–2021*
Large-scale geospatial data: vehicle tracks, nested territories, graph overlays at regional scale.

Hardware–Software Complex for Municipal Inventory *2018–2019*
Automated yard territory inventory system. Still serving original clients.

Teaching

- Teaching assistant, MUCTR (2020); MIPT (2022).
- Code reviewer and mentor, Yandex.Practicum, backend development track (2023–2024).

Technical Skills

Languages	Python, SQL, C
Backend	Django, DRF, Celery, PostgreSQL, PostGIS, ClickHouse, Redis
Infrastructure	Docker, Kubernetes, Terraform, GitLab CI, S3, Nginx, Grafana
Domain Expertise	GIS, route optimization (TSP/CVRP), telemetry, billing
Other	FPGA (Xilinx Spartan-6), SDR, Git, pytest, Agile

Certifications and Courses

- Cisco CCNA (2019).
- Practical Reinforcement Learning — HSE, Coursera (2021).
- Big Data Essentials: HDFS, MapReduce and Spark RDD — Yandex, Coursera (2020).

Selected Projects

Radio Bargain Bot r2bpw.works
Price-intelligence system for secondary ham radio market: 98 sources, 50+ countries, 12 regional Telegram channels.

Custom SDR Receiver on FPGA GitHub
Receiver firmware for Xilinx Spartan-6 in Verilog: NCO, hardware-multiplier mixer, CIC filter.

IR Bridge — Ericsson MC218 ↔ Flipper Zero ↔ LLM r2bpw.works
Infrared bridge from a 1999 palmtop to an LLM via Flipper Zero and ESP32.

30m QRSS Beacons r2bpw.works
Catalogue of QRSS beacons on the 30-metre band, built on a distributed KiwiSDR network worldwide.