# Tomasz Jóźwik

Senior Backend Engineer · Ruby on Rails, Data Pipelines & Applied AI · PhD Candidate in ICT

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## SUMMARY

Backend engineer shipping production code since 2019. I currently build ingestion, transformation and aggregation pipelines for a social-media analytics platform, and previously led a Ruby on Rails backend team through regulatory compliance work across multiple jurisdictions. As a PhD candidate in ICT, I model routing problems as LP/MILP programmes and benchmark heuristic and LLM-based methods against exact solvers. I own projects end to end – scoping, architecture, delivery and incident follow-up – and weigh technical trade-offs by their impact on users.

## EXPERIENCE

### Senior Ruby Developer · Measure Studio

Sep 2025 – Present

Remote · Social-media analytics platform for media companies, brands and agencies

- Design warehouse-style processing of per-post metrics from multiple social networks: ingestion, transformation and aggregation pipelines behind customer-facing analytics.
- Keep data processing fast and correct at production scale across the Ruby on Rails backend and PostgreSQL.

Stack Ruby on Rails · PostgreSQL · Data pipelines · Analytics

### Freelance Software Engineer · Tiny House Listings

Jan 2023 – Present

Remote, B2B contract · Leading consumer marketplace for tiny houses

- Independent engineer with end-to-end ownership of the Rails API, the Ember.js web app and the admin panel – from scoping to production.
- Ship user-facing features and improve database performance, page-load speed and SEO of a consumer-facing marketplace.
- Own payments, CI/CD and hosting, including the migration to Cloudflare.

Stack Ruby on Rails · Ember.js · PostgreSQL · Cloudflare · CI/CD

### Ruby on Rails Tech Lead · SOFTSWISS

Jan 2023 – Sep 2025

Warsaw · iGaming platform

- Led a backend team responsible for the technical side of regulatory compliance, adapting the platform to legal requirements across multiple jurisdictions.
- Owned architecture decisions and code-quality standards; coordinated delivery and aligned priorities with other teams and stakeholders.
- Introduced structured incident response, code review and deployment-reliability practices.

Stack Ruby on Rails · Architecture · Team leadership · Regulatory compliance

### Software Engineer & Team Lead · Visuality

Jul 2020 – Dec 2022

Warsaw · Software house building products for English-speaking clients across industries

- Built Ruby on Rails applications and APIs, making high-level architecture calls that balanced user needs with each client's budget.
- Ran Kubernetes-based infrastructure with CI/CD on AWS and owned the release lifecycle of hybrid iOS and Android apps.
- As team lead: task estimation, sprint planning, mentoring engineers and ownership of code quality.

Stack Ruby on Rails · Kubernetes · AWS · Docker · Cordova · Mentoring

### Software Engineering Intern · Visuality

Jul 2019 – Dec 2019

Warsaw · Business processes and internal tools

- Modelled business processes in BPMN to improve internal information flow; developed internal Rails applications running on AWS.

Stack Ruby on Rails · AWS · BPMN

## RESEARCH & APPLIED AI

**PhD Candidate, ICT** · Military University of Technology (WAT) — Oct 2022 – Present

Warsaw · Energy-efficient routing in flying ad-hoc networks (FANETs) · ORCID 0000-0002-1650-8103

- Model unicast and multicast routing for battery-limited UAV networks as mixed-integer programmes (LP/MILP).
- Evaluate heuristic and LLM-based methods against exact solvers; validate in simulation and emulation test-beds.

## SKILLS

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|---|---|
| **Programming** | Ruby, Python, SQL, JavaScript, Bash |
| **Backend** | Ruby on Rails, REST APIs, distributed systems, Ember.js, Cordova (hybrid mobile) |
| **Data** | PostgreSQL, ClickHouse, MongoDB, Oracle Database, data pipelines, analytics |
| **AI & LLMs** | LLM APIs (OpenRouter), local LLMs (FastFlowLM), Whisper, prompting, LLM evaluation, AI coding agents (Codex, Claude) |
| **Algorithms** | Graph and routing algorithms, LP/MILP modelling (HiGHS), heuristics, simulation, benchmarking |
| **Cloud & ops** | AWS, Oracle Cloud Infrastructure, Kubernetes, Docker, Cloudflare, Heroku, Linux, CI/CD |
| **Ways of working** | Remote work, end-to-end ownership, Scrum/Kanban, code review, incident response, mentoring |
| **Languages** | Polish (native), English (C1), Russian (B1) |

## PUBLICATIONS & TALKS

**Determining energy-efficient routing paths in FANETs using LLM Sonar models** — 2025

Paper · Przegląd Telekomunikacyjny – Wiadomości Telekomunikacyjne 2025(4) · doi:10.15199/59.2025.4.37 · talk at KRiT 2025

**Energy-Efficient Routing and Power Management in FANETs: A Comparative Analysis** — 2025

Talk · TransNav 2025, Gdynia · with K. Maślanka and J. Kelner

**Mathematical Programming in Ruby** — 2024

Talk · Baltic Ruby 2024, Malmö · youtube.com/watch?v=rKkvr0wQb2k · first given at Ruby Warsaw Meetup, 2023

**Optimisation model for energy-efficient unicast routing in FANETs** — 2024

Paper · Przegląd Telekomunikacyjny – Wiadomości Telekomunikacyjne 2024(4) · doi:10.15199/59.2024.4.49 · talk at KRiT 2024

**Optimisation model for energy-efficient multicast routing in FANETs** — 2024

Paper · XIII KNTWRE 2024 conference, Systemy rozpoznania i walki radioelektronicznej, Ołtarzew

**Router Activation Heuristics for Energy-Saving ECMP and Valiant Routing in Data Center Networks** — 2023

Paper · Energies 16(10), 4136 · with P. Arabas and E. Niewiadomska-Szynkiewicz · doi:10.3390/en16104136

## EDUCATION

**PhD Candidate, Information and Communication Technology** · Military University of Technology — Oct 2022 – Present

**MScEng, Computer Science** · Warsaw University of Technology — Feb 2021 – Aug 2022

Faculty of Electronics and Information Technology · Energy-saving routing algorithms and optimisation for data-centre networks

**BScEng, Computer Science** · Warsaw University of Technology — Oct 2017 – Feb 2021

Faculty of Electronics and Information Technology · Lightweight cloud platform for managing VMs (KVM, VXLAN, object storage)

## CERTIFICATIONS

**Oracle Cloud Infrastructure 2021 Certified Architect Professional** — Dec 2021

**Oracle Cloud Infrastructure Certified Architect Associate** – 2021 and 2019 editions — Dec 2021

**Oracle Cloud Infrastructure Foundations 2020 Certified Associate** — Jul 2020

## OPEN SOURCE

**wouterken/rulp** – HiGHS solver support and runtime fixes for a Ruby LP/MILP DSL · merged PR #16 — 2024

**isleofcode/corber** – iOS builds via xctrace instead of instruments (macOS Monterey) · merged PR #698 — 2022

**faker-ruby/faker** – optional open compounds that keep the requested word count · merged PR #2109 — 2020

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