

Radu Marias

Senior Software Developer • Rust Specialist

Networking, APIs, cryptography and distributed systems • 20+ years in software engineering

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PROFILE

Rust developer with deep, hands-on experience in concurrency, file systems, networking, distributed systems, containers, APIs and cryptography, built on more than 20 years in software engineering, most of it in Java and systems programming. I lead **rencfs**, an open-source encrypted filesystem in Rust (This Week in Rust “Crate of the Week”, Aug 2024); in 2024 I was the 5th most active GitHub user in Romania and the first in Rust. Earlier I was on the core team at Danger Inc., the “grandfather of Android”, building SSH and FTP clients, working on the TCP/IP stack in C/C++ and leading the device’s move to standalone internet access; since then I have architected microservice platforms on AWS and OpenShift and led back-end and Android teams.

CORE COMPETENCIES

Languages	Rust (primary), Java SE/EE, Kotlin, Python, C/C++, SQL, PHP, JavaScript, .NET
Systems & Networking	Concurrency, FUSE and distributed file systems, QUIC / HTTP/3, TCP/IP, UDP, SSH, FTP, gRPC (tonic), Cap’n Proto, RDMA, zero-copy I/O, WASM, RFC- and ISO-standard protocol work
Security & Cryptography	AEAD (AES-GCM, ChaCha20-Poly1305), public-key cryptography, secure memory handling, SSO / SAML / OpenID Connect / JWT, digital identity
Back-end & Cloud	Quarkus, MicroProfile, JPA / Hibernate, REST / OpenAPI, axum, ActiveMQ, RabbitMQ, Apache Camel, AWS (Lambda, SQS, ECS/ECR, RDS, DynamoDB, API Gateway, CloudWatch), Docker, Kubernetes, OpenShift
Data & Search	PostgreSQL, MySQL, SQLite, MongoDB, DynamoDB, Elasticsearch, Spark, HBase, Greenplum
UI & Mobile	Android (SDK, Android Studio), GWT, egui, Kotlin Multiplatform Compose, HTML5 / CSS / AJAX
Engineering Practice	TDD (JUnit), design patterns, Twelve-Factor App, CI/CD (GitHub Actions, Jenkins, Ansible), ELK / APM observability, deployment strategies, Maven, Ant, Git, JIRA, mentoring; Solana / Anchor (experimental)

PROFESSIONAL EXPERIENCE

Founder & Senior Rust Developer **xorio** Mar 2023 – Present
Rust consultancy and open-source lab • Romania

- Lead **rencfs**, an encrypted filesystem in Rust mounted with FUSE on Linux: encrypted directories that can be backed up to untrusted servers or cloud storage without exposing data. This Week in Rust “Crate of the Week”, Aug 2024.
- Design and build **SyncOxiders**: cloud file and email sync, sharing, backup and inter-cloud encryption in Rust, with real-time synchronisation across providers.
- Delivered client work across cryptography, digital identity, encoders, APIs, ML scaling, 3D rendering, WASM and egui.
- Maintain supporting projects (rfs, grpc-capnproto, rencrypt, zeroize, gdrive-rs, CipherShell) — see Open-Source Projects.
- Explored Solana with Anchor (Oct–Nov 2024): prototyped an on-chain executor for YAML-defined jobs and documented Solana Program constraints (32 KB stack, 400 ms budget, deterministic integer-only execution, no off-chain access).
- Run a free open-source learning community — courses, mentoring, talks and coding challenges — via the xorio Discord and the STAR-TECH R&D Reloaded meetup.

Software Architect **AppScenic** Mar 2022 – Feb 2023
Rust, distributed systems, microservices, cloud solutions • Romania

- Designed and built the services that synchronise online stores such as Shopify, WooCommerce and eBay for a dropshipping platform: Quarkus-based microservices running on AWS (SQS, ECS, ECR, RDS).

Software Architect & Project Lead **REDCap Cloud** Jan 2019 – Mar 2022
Java, Kotlin, Python, PostgreSQL, Android Studio • Romania

- Architected new and existing modules; built prototypes to validate concepts and stayed hands-on in implementation.
- Tech lead for the back-end and Android teams; partnered with DevSecOps on service architecture and CI/CD and with QA on test automation; ran hiring and onboarding for developers and QA-automation engineers.
- Built a microservice pipeline that ingests large CSV files from SFTP, and a gateway proxy exposing OpenAPI REST APIs to internal and external clients for horizontal scaling — both deployed on OpenShift.
- Introduced Twelve-Factor App practices and ELK observability with APM and log-based alerting to prevent production issues.
- Gathered requirements directly from clients and resolved production incidents.
- Stack: Quarkus (Java & Kotlin), Java 8/11, J2EE, JPA/Hibernate, MicroProfile, Elasticsearch, SSO/SAML/OpenID Connect/JWT, Docker, Kubernetes, AWS Serverless, RDS, GitHub Actions, Jenkins, Ansible.

Principal Software Engineer REDCap Cloud

Sep 2016 – Jan 2019

Java, GWT, Android

- Architected and prototyped modules, led implementation, and worked with DevSecOps and QA to improve service architecture, CI/CD and automation.
- Built Java 8 / J2EE microservices and clustered services with REST APIs (JPA, Hibernate), GWT and Android front ends, SSO/SAML/OpenID Connect/JWT authentication, and Jenkins/Ansible delivery.

Principal Software Engineer Candor GRC

Sep 2011 – Aug 2016

Java, PostgreSQL, MongoDB, Android Studio · Romania

- Developed GWT applications end to end (Jetty, Guice, JPA, Shiro, PostgreSQL), exposing services through RESTful APIs.
- Lead developer on applications built with Elasticsearch, GWT, ActiveMQ, Apache Camel and email/SMS clients; led Android application development, including apps that synchronise data with servers over REST APIs.
- Evaluated big-data technologies in the Hadoop ecosystem (Spark, HBase, Apache Phoenix, CitusDB, Greenplum, Trafodion, Cassandra, MongoDB, Kylin) for data management and analytics.

Senior Software Developer Softvision

May 2007 – Aug 2011

Core-team developer for Danger Inc. – the “grandfather” of Android OS · Java, Android, API development, microservices

- Built Java applications for the Danger platform – FTP and SSH clients, Twitter/Facebook clients and a mini-VNC-style proof of concept for remote device interaction; worked on the core network-communication classes.
- Improved performance by fixing crashes in the C and ARM layers, resolved radio-module bugs and contributed to a metrics collector for the TCP/IP stack implementation in C/C++.
- Led the migration of the device architecture from proxy-based to standalone internet access: new email, browser and chat applications and a reworked network layer that removed the dependency on a relay server.
- Lead developer on several Android applications, overseeing delivery quality.

Senior Software Developer SoftZone SRL

Feb 2005 – May 2007

Java, Tapestry, J2EE, .NET

- Lead developer for Java stand-alone and web applications (Tapestry, J2EE) and for .NET 1.1 / 2.0 applications.
- Built an electric-grid schema editor that imports CAD files and uses neural networks to recognise entities and their connections from a legend, mapping each to real equipment in the field.

Web Developer OfficeINN SRL

Oct 2004 – Feb 2005

- Built web pages in PHP/HTML/JavaScript/CSS, customised Zen Cart with additional modules and supported web hosting.

SELECTED OPEN-SOURCE PROJECTS

- **rencfs** – Encrypted filesystem in Rust, mounted with FUSE on Linux; This Week in Rust “Crate of the Week”, Aug 2024.
- **SyncOxidors** – Cloud file and email sync, sharing, backup and inter-cloud encryption written in Rust.
- **rfs** – Distributed filesystem in Rust exploring distributed-systems design and its implementation challenges.
- **grpc-capnproto** – gRPC with Cap’n Proto encoding over HTTP/3 (QUIC) and RDMA, in Rust.
- **rencrypt & zeroize** – Python cryptography (AEAD via ring) and secure-memory libraries implemented in Rust, on PyPI.
- **gdrive-rs** – Google Drive client in Rust exposed as a filesystem through fuse3.
- **CipherShell, rencfs-desktop, rencfs-daemon** – Kotlin Multiplatform Compose and egui front ends and a systemd / gRPC daemon for rencfs.

TALKS & PUBLICATIONS

- **The Hitchhiker’s Guide to Building an Encrypted Filesystem in Rust** – article series on Medium and a one-page guide; presented as a talk at STAR-TECH R&D.
- **The Hitchhiker’s Guide to Building a Distributed Filesystem and Cap’n Proto in gRPC over HTTP/3 (QUIC)** – articles on Medium.
- **Basics of Cryptography, Authenticated Encryption and Rust in Cryptography** – live talk on building an encrypted filesystem (YouTube).

EDUCATION

Babeş-Bolyai University, Cluj-Napoca

Master’s degree, Object Oriented Programming · 2006 – 2007

North University of Baia Mare

Bachelor’s degree, Computer Programming · 2002 – 2006

HONOURS & RECOGNITION

- 5th most active GitHub user in Romania and the first in Rust (2024).
- **Crate of the Week**, This Week in Rust (Aug 2024) – rencfs.
- **JPaint – Best Project of the Year**, North University of Baia Mare (2005): CAD import with neural-network recognition of electrical-schema entities.

RECOMMENDATIONS

- “A community leader ... on the bleeding edge of AI research and a perfectionist. If you need someone who would go as deep and as wide as possible, he is the right person.” – Liviu Virgil Olos, Founder, LOFTREK (2026)
- “I can highly recommend him to recruiters seeking a skilled Rust developer ... strong experience with cryptography concepts, Rust, and mobile development.” – Jai Bhalla, Managing Consultant (2025)