

Jyri Genral

Senior Software Engineer - Embedded systems and Event-driven Platforms, Streaming & Cloud Infrastructure

Interests from the subatomic nature to the cloud

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Profile

Senior engineer with ~8 years building the embedded systems, integration and provisioning infrastructure behind supply-chain platforms. I work end-to-end within small teams - I like designing both architecture and authoring RFCs, through implementation, Kubernetes deployment, security and on-call. I focus on embedded and event-driven systems such as Apache Kafka, workflow orchestration and infrastructure-as-code. I am triple trained in military, aviation and physics, so I like to reason things such as distributed-systems problems from first principles, eg. consensus, CRDTs, idempotency, and try to deliver back decisions with measurable outcomes. I have served not only as the all-rounder occasional lead but also as the occasional mentor, and sometimes I am a student. I write the design docs, and drive architecture across teams. Be it ending up debugging hardware or reverse-engineering, I will find a way and enjoy learning on the way from the odd challenges. That is what keeps me going.

Core Stack

Languages

Go, Python, Rust, TypeScript · SQL, Bash, Nix, C (*with interests in eg. Haskell and Perl*)

Orchestration & Runtime

Kubernetes, Temporal · Helm, Flux (GitOps), Docker / Podman

Cloud & Data

Microsoft Azure (AKS, Container Apps, Entra ID, networking) · PostgreSQL, CosmosDB, AWS

Streaming & Events

Apache Kafka, Confluent Cloud, Schema Registry · event-driven architecture, *and sometimes MQTT and Websockets just for fun*

Infrastructure as Code

Terraform / OpenTofu · GitLab CI, Azure DevOps, Nix / NixOS

Observability & Security

Datadog, Prometheus, Vector collection pipelines, OpenTelemetry, OAuth2 & OpenID Connect, Azure Workload Identity, Hashicorp Vault, Keycloak, X509 and friends, the CycloneDX ecosystem

Experience

RELEX Solutions

Nov 2021 - present · London / Remote

Senior Software Developer - Shared Services / Data Bridge

- Tech lead for a product REST API integration -- owning systems end-to-end from RFC and architecture to production deployment and on-call on both sides.

- Re-architected customer-infrastructure provisioning onto Temporal durable workflows and direct cloud APIs, cutting deployment latency from tens of minutes to seconds while making it idempotent and observable.
- Designed and shipped Azure Blob Storage deployment self-service with environment-isolated RBAC (a thorough test suite preventing test → prod writes), then migrated the entire existing customer base onto it.
- Hardened internal platform identity: implemented AKS Workload Identity (added per-tenant, least-privilege OIDC) and migrated off SAS tokens and AKV2K8S ahead of deadlines, contributing the enabling upstream platform patches.
- Built customer data ingestion (API Gateway deployment and data validation and authz plugins (Golang) + Kafka streaming message preprocessor microservice (Rust)) and automated new-customer onboarding taking it from multiple days to maximum of hours.

Etteplan Oyj

Aug 2018 - Nov 2021 · Finland

Software Designer

- Delivered production Rust now sailing aboard Carnival Cruise Line's *Mardi Gras*, a cross-ship navigational data relay over a custom private wireless network; a Business Finland-backed project.
- Embedded software and firmware in C/C++ for both battery and mains powered Bluetooth, LoRa and LoRaWAN devices, including protocol reverse-engineering and forensic reconstruction.
- Built data-to-cloud pipelines and scientific edge-computing in Python; TypeScript / React web interfaces for industrial clients.
- Occasional UI work in HTML5 / Typescript, JavaScript, and sometimes Python or C++

Cinia Oy

Dec 2017 - Jun 2018 · Finland

Junior Software Developer

- Built test automation and orchestration, regression and exploratory testing, and DevOps tooling for Java Spring Boot projects.
- Recruited directly out of university physics studies to join the team.

Leadership & Open Source

International Association of Physics Students (IAPS) -- President 2019-20; IT Manager & Data Protection Officer 2018–20. Led a worldwide volunteer organisation and ran its IT and GDPR compliance.

Pro-bono solutions architect & tech lead -- since 2017. Hands-on architecture for IT / ICT projects backed by the Finnish state and industry, mainly for defence.

Open source · github.com/jyrama (public mirror of selected projects on the self-hosted tea.jrd.fi/jyrama)

Education	Languages
Physics -- University of Jyväskylä. <i>Left to enter industry, 2017.</i>	Finnish <i>native</i>
	English <i>near-native</i>
Private Pilot Licence, PPL(A) -- Blue Skies Aviation, 2013.	German <i>basic</i>
Mil -- Finnish Defence Forces	Swedish <i>basic</i>

Beyond Code

Electronics & RF -- designed and ran **Radio Maxwell**, a compliant FM broadcast system (signal-chain design, distributed control). Embedded / FPGA / DSP tinkering with GNU Radio.

A jack of all trades sysadmin and RF focused developer at [MPK](#)

Interests

Aviation, cycling, data analytics along ML algorithms, low-level systems & CPU architecture, reverse engineering, electronics and tuning the Linux kernel.