# Yossri Khalil

SOFTWARE ENGINEER

## Details

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## Links

Github

LinkedIn

## Skills

C#

rust

typescript

redis

.net

Microservices

snapcraft

linux

Clean Architecture

Azure

## Profile

Software Engineer specializing in distributed systems, backend platforms, and real-time device/cloud integrations. I deliver resilient, low-latency services across Rust, .NET, TypeScript/Angular, Flutter, Linux/Snapcraft, gRPC/Axum, Redis, and CI/CD. I shipped solutions such as a Raspberry Pi distributed update pipeline, SSE/BLE real-time sync, and secure identity migrations (Okta to Auth0).

## Employment History

### Backend/Systems Engineer - Device platform, Nureva, Calgary

JAN 2023 — PRESENT

- Developed Rust services running inside distributed snap packages on Raspberry Pi, gaining hands-on experience with snap confinement, service orchestration, and inter-snap communication.
- Standardized device-side Rust services on Axum after evaluating multiple frameworks, improving API performance and simplifying future service development.
- Implemented a gRPC client-server architecture for communication between snaps and back end tools, enabling strongly-typed, low-latency interactions across distributed device services.
- Migrated SMP messaging from CBOR to protobuf, reducing parsing overhead and improving reliability and schema evolution.
- Owned the online/offline update pipeline, including fallback logic and integrity checks, improving update success rates across multiple device types.
- Built the SSE client for real-time updates (HTTP and Bluetooth), enabling low-latency device state synchronization in the app.
- Delivered BLE API improvements including connection handling, disconnection recovery, and request/response stability, reducing BLE-related test failures.
- Implemented manufacturing and provisioning endpoints for firmware versioning, enrollment status, and reset flows, improving factory throughput.

### Full-Stack Engineer — Cloud Identity & App Integration, Nureva, Calgary

MAY 2022 — DEC 2023

- Built and maintained .NET backend services using Clean Architecture and Dapper ORM, implementing Redis-backed, event-driven notification workflows to improve maintainability, database performance, and service reliability.
- Contributed across the stack to the Flutter-based Nureva app, designing page architecture, implementing backend APIs, and supporting frontend integration and deployment.
- Guided integration of SSE-based real-time updates into the Flutter app, defining event models, reconnection logic, and performance considerations.
- Implemented identity and authentication improvements, contributing to the Okta to Auth0 migration and refining password reset, account validation, and claims handling.
- Contributed to Angular frontend development, implementing UI components and integrating them with backend APIs for identity, subscription, and device-management workflows.
- Improved subscription and licensing flows, supporting Pro-tier entitlements, renewals, and room-level license assignment.
- Implemented backend logic for device alerts, including offline detection and module-issue workflows.

## Education

### Bachelor of Science in Engineering (Software Engineering), University of Calgary, Calgary

SEPT 2016 — MAY 2022

Completed program with Distinction

## Internships

### Software Developer, Nureva, Calgary

MAY 2020 — AUG 2021

- Designed and implemented a secure authentication system that improved system security.
- Developed a modular, single-page web application in Angular that incorporated responsive design principles
- Developed a RESTful API to support our WebApp

## Projects

### Uber Sim X — Distributed Ride-Matching Simulator

DEC 2025 — PRESENT

- Built a real-time ride-hailing backend in Rust, using WebSockets for live rider–driver communication and NATS for event-driven service coordination.
- Implemented geospatial matching, driver state tracking, and fault-tolerant ride lifecycles with Redis for low-latency state and PostgreSQL for durable data storage.
- Explored system design tradeoffs around scalability, consistency, and real-time coordination in a distributed environment.

### PK Sound GPS Rental Tracker System - Engineering Capstone Project, Calgary

AUG 2021 — MAY 2022

- Designed and implemented a Clean Architecture–based backend using C# and .NET, with a SQL database to manage rental assets, device telemetry, and historical location data.
- Built real-time location streaming for rental equipment using SignalR, enabling live movement tracking from GPS devices to a React + TypeScript frontend.
- Developed a hardware GPS tracker using Arduino (C/C++) with a cellular SIM module for satellite/network connectivity; integrated Okta authentication for secure user access.