

Mathias Petersen

SOFTWARE / SYSTEMS / DEVELOPER TOOLS

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github.com/SoZ0 | github.com/Prometheus-Dynamics

Rust Systems | Linux | Developer Tools | Dataflow / Runtime | Infrastructure | Robotics Product Software

FOCUS			
Software-focused technical founder building Rust workspaces, embedded Linux images, distributed runtimes, dataflow graph engines, media pipelines, Svelte/Tauri tools, and Kubernetes-hosted internal platforms.			
Rust platform libs	Embedded OS shipped	Production infra	Product supported
multi-crate runtime/media/CV systems	custom HeliOS image for CM5	K3S, Longhorn, CloudNativePG LMS	hardware sold and field-tested

TARGET STACK

Rust / Systems	Backend / Platform
Rust, C/C++, Python, async/concurrency, serialization, CLI tools, runtime/service architecture	REST APIs, IPC, HTTP/TCP/QUIC concepts, observability, auth, SDKs, deterministic graph planning
Frontend / Tools	Infrastructure
Svelte, React, Tauri, Node/Bun, dashboards, config UIs, technical docs	Linux, Docker, K3S, Longhorn, CloudNativePG, AWS, Bash, CI-oriented validation

RELEVANT EXPERIENCE

Founder & Lead Engineer Prometheus Dynamics LLP	Mar 2023 - Present
- Founded and lead a robotics hardware/software company building affordable high-performance vision and control systems for FRC teams and education. - Designed and shipped HVS-Raze/Helios across PCB/CAD, embedded Linux, Rust backend services, Svelte UI, camera integration, assembly, testing, manufacturing coordination, and customer support. - Led a 50-unit initial production run through multiple prototype revisions; sold approximately 25 total units and supported/sponsored FRC teams during the season.	
Robotics Instructor & Tech Lead Zebra Robotics / FVCA	Jul 2023 - Jun 2024
Taught robotics and programming to grades 1-12; deployed classroom systems including digital signage, cloud storage, CanvasLMS/K3S, and internal management tooling.	
Tech Mentor & Former Software Lead FRC 6390	Oct 2018 - Present
Mentor students across programming, electrical, mechanical, soldering, troubleshooting, controls, and match-season debugging.	
IT Technician Kelly Services Canada	Mar 2024 - Jan 2026
Completed contract site installations for POS, VoIP, printers, monitors, workstations, diagnostics, packaging, and deployment support across banking and small-business locations.	

SELECTED PROJECT EVIDENCE + LINKS

Daedalus	Eidos
Typed dataflow graph runtime for deterministic planning, CPU/GPU execution paths, plugin nodes, telemetry, and FFI/SDK boundaries. Find: github.com/Prometheus-Dynamics/Daedalus	Rust CV/image-processing workspace for ArUco, calibration, contours, detectors, filters, geometry, frames, masks, and temporal processing. Find: private: Prometheus-Dynamics/Eidos; demo available
Styx	Orion
Sync-first zero-copy Rust media pipeline stack for capture, decode, transform, graph integration, recording, and service workflows. Find: github.com/Prometheus-Dynamics/Styx	Distributed node runtime with client SDK, operator CLI, control/data-plane split, transports, observability, auth, and audit surfaces. Find: github.com/Prometheus-Dynamics/Orion
Lemnos	HeliOS
Hardware discovery, driver matching, and runtime interaction layer across GPIO, PWM, I2C, SPI, UART, USB, and Linux backends. Find: github.com/Prometheus-Dynamics/Lemnos	Custom embedded Linux OS/image stack for Prometheus camera hardware, CM5 deployment, backend services, UI assets, and CV runtime. Find: github.com/Prometheus-Dynamics/HeliOS
FRC-Athena	HVS-Raze / Helios
Reusable Java FRC robotics framework: control layers, vendor integration, examples, docs, and faster robot software bring-up. Find: github.com/FRC-6390/FRC-Athena	Shipped CM5 robotics vision camera: custom PCB/CAD, Rust backend, Svelte UI, camera driver work, assembly, and support. Find: prometheus-dynamics.ca/products/helios-vision-system-raze

ADDITIONAL EXPERIENCE

Byte Camp Lead Instructor	Jul 2022 - Apr 2023	McDonald's Crew Trainer	Aug 2021 - Nov 2022
Taught Blender, Godot, Scratch, programming fundamentals, 3D/game projects, and youth technical camps.		Trained new staff, handled fast-paced service operations, safety/sanitation, and practical team communication.	

EDUCATION & CREDENTIALS

Simon Fraser University	CompTIA Security+	BrainStation	North Surrey Secondary
BASc, Mechatronic Systems Engineering Started Spring 2025 - Expected 2029/2030 Co-op eligible	SYO-701 Active Jul 2024 - Jul 2027	Cybersecurity Diploma Completed Jul 2024	Honours Graduate Completed Jun 2023