

AMINE RHAMMI

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• Right to work (UK): 3 years Youth Mobility Scheme (Canadian citizen) – no sponsorship required

Professional Profile

Mechanical Engineering student specializing in **Mechatronics**, with multi-term experience across **refining, metallurgy, pulp & paper, and manufacturing** sectors. Proven ability to bridge **design, reliability, and field execution** through five progressive internships at **Valero Energy, Rio Tinto, Kruger Inc., and Soucy International**. Skilled in **reliability engineering, maintenance optimization, and project execution**, with a strong record of **hands-on problem solving and disciplined safety performance**. Fluent in English and French (oral and written)

Core Skills

Reliability & Maintenance Engineering

RCFA • FMECA • Asset criticality assessment • Preventive/predictive maintenance optimization • Condition-based monitoring (vibration, lubrication, thermography, Pareto) • Spares & lifecycle management

Automation & Controls

PLC logic (Allen-Bradley Micrologix 1100) • STM32 / ESP32 embedded systems • Instrumentation & signal conditioning • Dynamic system modeling • Control loop tuning • C# / Python programming

Mechanical Design & Drafting

SolidWorks / Solid Edge (3D) • AutoCAD (2D) • P&ID and Isometric drafting • Mechanical assemblies and plant layouts • Piping and drainage design • Design-for-maintainability and safety guarding

Project Execution & MOC

Commissioning **checklists/SWIs** • Drawing/revision control • SAP PM / AssetWise BOM reconciliation • Field/vendor coordination • **Management of Change (MOC)** documentation

Field & Equipment Knowledge

Rotating equipment (pumps, fans, motors, conveyors) • Valves and **MOVs** • Lubrication systems • Drainage & piping networks • Instrumentation loops • Refinery & metallurgical process audits • Hands-on mechanical troubleshooting and inspection

Data & Analytical Tools

Excel (advanced formulas, PivotTables, Power Query, VBA) • OSIsoft PI / ProcessBook • MATLAB & numerical modeling

Safety & Communication

WHMIS / SIMDUT • Lockout / Tagout (LOTO) • Process Hazard Analysis (PHA) exposure

Experience

May –Aug 2025

Mechanical Engineering Intern (Reliability)

Valero Energy — Montréal East Terminal, QC, Canada

- Standardized **pump families and MOV/actuator assemblies** by reconciling **OEM vs SAP PM BOMs**, flagging obsolescence and interchangeability to strengthen lifecycle cost control.
- Built a **terminal-wide MOV/actuator register** (torque, RPM, voltage, ISO 5211 mount) and closed tag gaps, enabling risk-based spares and more accurate reliability planning.
- Supported **Management of Change (MOC)** deliverables: updated **P&IDs**, authored **commissioning checklists/SWIs**, and ensured full document traceability for safe, auditable start-ups.
- **Designed a gravity-drain and low-ΔP magnetic pre-filtration system** for hazardous-vapor service, improving safety, maintainability, and extending service intervals.

May –Aug 2024

Mechanical Engineering Intern (Reliability)
Kruger Inc. — Trois-Rivières, QC, Canada

- Rebuilt and standardized **lubrication & preventive-maintenance routes** (Spartakus CMMS + Excel), removing duplicates and filling gaps to boost PM compliance and reduce lube-related downtime.
- Consolidated multi-source **vibration health reports** into a single CBM dashboard; led weekly reliability meetings with maintenance and operations to drive quicker corrective actions.
- Cleaned and automated a **9,000-row roller-life database**, calculating life and remaining-life metrics to support data-driven replacements and trend analysis (MTBF tracking).
- Created an **Excel belt-tension and selection tool** using math formulas to standardize belt sizing and prevent premature failures.
- Supported **FMECA** and **Root Cause Analyses (RCAs)**, translating findings into updated PM tasks and standard-work documentation.

May –Aug 2023

Mechanical Engineering Intern (Reliability)
Rio Tinto — Sorel-Tracy Metallurgical Complex, QC, Canada

- Designed engineered **fixtures and guarding** in **SolidWorks / AutoCAD**, validated by structural and safety calculations.
- Executed **layout modifications** on piping elbows and access points to improve maintainability and operator ergonomics.
- Built **daily/weekly dashboards** for Titanium Dioxide Production (TDP) critical assets to enable proactive maintenance and shorten alert-to-action time.
- Assisted in **RCFAs for fire incidents**; documented causes and implemented mitigation measures.
- Developed **maintenance plans for TDP/TDS conveyors**, extending asset life and improving uptime, updated and coded parts in **AssetWise** and **SAP PM** for traceability.

May –Aug 2022

Mechanical Engineering Intern (Maintenance Supervisor)
Soucy International — Drummondville, QC, Canada

- Supported deployment of **INTERNAL CMMS** for preventive maintenance; reorganized inventory and cleansed master data to improve scheduling accuracy.
- Designed, fabricated, and installed **custom machine guarding** compliant with plant safety standards.
- Produced weekly **maintenance schedules** and coordinated with production to reduce unplanned downtime and increase task completion rate

May 2021– 2022

Mechanical Engineering Intern (Process Optimization)
Rio Tinto — Sorel-Tracy Metallurgical Complex, QC, Canada

- Developed **equipment monitoring interfaces** for the **Upgraded Titanium Slag (UGS))** plant to support reliability initiatives and predictive maintenance.
- Assisted the reliability engineer in **RCA (Root Cause Analysis)** and maintenance-plan development.
- Conducted compliance reviews and identified improvement and investment opportunities.
- Contributed to **FMECA (Failure Modes, Effects & Criticality Analysis)** for the **ARP (Acid Regeneration Plant)**, improving operational risk visibility.

Education

B.Eng. Mechanical Engineering – Mechatronics (Program 7347)

Université du Québec à Trois-Rivières (UQTR), QC

Expected Dec 2026

B.Eng. Mechanical Engineering – Co-op Pathway (Program 6647)

Université du Québec à Trois-Rivières, Drummondville Campus, QC

Sept 2020 – Apr 2022

Diploma of College Studies (DEC) – Mathematics & Computer Science

Collège Rosemont, Montréal, QC

Completed