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LANGUAGES

English (Bilingual)
French (Native).
Spanish (Limited working)
Italian - Hebrew (Elementary)

CERTIFICATIONS

Working at Heights Training
Aerial Lifts & Aerial Work
Platforms
Fall Protection - Safety Training
Elevated Work Platform –
Safety Training
Airport Security Awareness
Training Certificate
Emergency First Aid – CPR and
AED

PUBLICATIONS

Emission Measurements of
Various Biofuels using a
Commercial Swirl-Type Air-
Assist Dual Fuel Injector
Comparative Study for
Biodiesel Properties and
Standards for Gas Turbine

JOACHIM AGOU

P.Eng. | Mechanical & Aerospace Engineer | Systems Integration &
Project Management | Gas Turbines | Entrepreneur

Licensed Mechanical & Aerospace Engineer (P.Eng.) with 12+ years of experience leading complex engineering projects in aerospace, energy, and technology. Skilled in **systems integration, gas turbine testing, data acquisition, and robotic systems for space applications**. Entrepreneurial and adaptable, with additional experience in **business operations, consulting, and media production**. Recognized for **hands-on problem solving** and guiding full project lifecycles from requirements to testing and deployment. **Bilingual (French/English)** with a collaborative, results-driven approach to innovation.

KEY SKILLS

- **Industry Expertise:** Systems Engineering & Integration, Project Engineering/Management, Aerospace & Mechanical Design, Business Strategy, Testing & Validation, Operations, Robotics
- **Technical Domain:** Gas Turbines & Jet Engines (turbomachinery, propulsion), Data Acquisition Systems, Aerodynamics, Thermodynamics, Combustion & Emissions, Fluid Dynamics, Energy & Climate Change
- **Tools & Technologies:** ANSYS (Fluent, CFX), SolidWorks, CATIA, AutoCAD, LabVIEW, iDDS, Python, MATLAB, VBA, Git, Linux/Unix, PTC Windchill PLM, Power BI, Tableau
- **Leadership & Collaboration:** Team Leadership & Mentoring, Cross-Functional Collaboration, Training & Teaching, Presentation & Communication, Problem Solving

EXPERIENCE

Accounting & Operations Administrator

Sarah Mae Ives Social Media Inc. (Digital Marketing Firm)

2024 — present | Vancouver (BC), Canada

- **Financial Oversight** — Manage daily cash flow and invoicing operations across 100+ active client accounts. Process payments to contractors through RBC PayEdge and oversee subscription transactions using Kajabi, Stripe, and PayPal.
- **Team & Workflow Management** — Lead a cross-functional team of 4–6 (admins, moderators, tech/media assistants), streamlining coordination across finance, customer support, and CEO directives.
- **CRM & Systems Design** — Built and maintain an end-to-end custom Google Sheets-based CRM to track subscriptions, student enrollments, sales, and payments—enhancing reporting accuracy and reducing admin hours by 30%.
- **Reporting & Analysis** — Deliver weekly dashboards and performance summaries to the CEO, supporting financial planning, revenue tracking, and team accountability.
- **Customer Support** — Resolve customer access, billing, and transaction issues through email and Slack; implement follow-up systems to reduce churn and restore failed accounts.
- **Process Improvements** — Standardized workflows for contracts and payment cycles, improving turnaround speed and ensuring 100% compliance with internal policies.

Founder & Consultant — Independent Ventures

Entrepreneurship

July 2023 – Present (concurrent with other roles) | Victoria (BC) Canada

- **Aerial Media & Video Production** — Operate a drone-based service producing high-resolution photography and promotional videos for education, hospitality, and cultural clients, including Fairmont Empress, University of Victoria, and Alliance Française Victoria, boosting brand exposure, event attendance, and online engagement.
- **Live Streaming Solutions** — Plan, produce, and manage live-streaming projects across Vancouver Island for both remote and urban events. Deliver tailored solutions for families, communities, and corporate clients, including remote staff training for smooth viewing experiences.
- **Engineering Consulting** — Provide technical consulting for industrial projects, including oven system installations and backup power design. Deliver turnkey solutions from requirements to commissioning, emphasizing safety, energy efficiency, and minimal downtime.
- **Project & Client Management** — Scope and budget multi-industry projects, coordinate vendors, manage schedules, and maintain client communication to ensure quality delivery and repeat business.

Restaurant Operations Project Manager (Pre-Launch)

March 2024 – September 2024 | Victoria (BC), Canada

- **Pre-Launch Development** — Led the full operational planning of a new vegetarian buffet concept, including site selection, lease negotiation, hiring, kitchen layout design, supplier sourcing, and permitting. Although the project was canceled before launch, all milestones were executed successfully up to pre-opening.
- **Business & Compliance Strategy** — Developed the full business plan, pricing model, supplier network, and ensured regulatory compliance (FoodSafe certification, health inspections) while aligning the operation with farm-to-table and seasonal menu values.



Senior Systems/ Project Engineer — Robotics & Space Operations MDA

February 2022 — February 2023 | Brampton (ON), Canada

- **End-to-End Systems Engineering** — Led the development of advanced robotic systems for on-orbit servicing and planetary exploration (e.g., ISS, lunar, and Mars missions). Oversaw requirements, architecture, trade studies, design, integration, testing, and on-orbit validation to ensure mission success.
- **Project Management** — Managed day-to-day execution across multi-disciplinary teams (mechanical, electrical, software, mission ops), keeping CSA- and NASA-aligned programs on track with respect to budget, schedule, and technical goals.
- **Test & Verification Leadership** — Planned and executed system-level verification campaigns, including environmental and performance testing, to meet rigorous spaceflight qualification standards.
- **Design Optimization** — Applied design-to-cost (DTC) and design-for-manufacture (DFM) principles to streamline integration, reduce complexity, and improve system reliability under launch and space conditions.
- **Technical Documentation & Analysis** — Produced mission-critical specifications, interface control documents, verification matrices, and trade studies, ensuring requirements traceability with tools like PTC Windchill and IBM DOORS.
- **Problem Solving & Operations Support** — Investigated system anomalies using telemetry data and root cause analysis. Provided engineering support for mission operations, contributing to successful resolution and handoff.
- **Proposal & Cost Support** — Collaborated with project managers and technical leads to prepare ROM estimates, resource planning, and technical inputs for proposals and stakeholder briefings.



Gas Turbine Applications Engineer — Systems Integrator MDS Gas Turbine Engine Solutions

December 2013 — February 2022 | Ottawa (ON), Canada

- **Turnkey Facility Development** — Delivered 15+ custom gas turbine engine test facilities for aviation, industrial, and marine clients, managing the full lifecycle from requirements and concept design to construction, commissioning, and client handover.
 - Scope included Data Acquisition Systems (DAS), instrumentation & control, mechanical systems (including rotor-dynamics), aerodynamic/acoustic design, and environmental compliance.
- **Project Highlights** — Led major MRO and R&D projects worldwide, including: Air France–KLM (Paris, France – CFM56 & GE90), GKN Aerospace (Trollhättan, Sweden – RM12/RM16 Gripen), StandardAero (Summerside, Canada – JT15D), Safran Morocco (Casablanca – CFM56), GA Telesis (Helsinki, Finland – CFM56 & CF6-80C2), Rolls-Royce/NASA Stennis (Mississippi, USA – outdoor jet engine facility), and Safran LEAP-1A certification (France).
- **Systems Integration & Technical Leadership** — Directed the integration of mechanical, electrical, instrumentation, software, and control subsystems into fully operational test facilities. Translated complex client requirements into actionable specifications, system architectures, and work breakdown structures.
- **Project Management & Procurement** — Managed multi-million-dollar programs, including scheduling, budgeting, and risk mitigation. Oversaw vendor selection, ERP-driven procurement, resource allocation, and coordinated cross-functional teams to ensure on-time and within-scope delivery.
- **Client Engagement & Training** — Served as lead interface for international clients; conducted design reviews, Acceptance Test Procedures (ATPs), on-site commissioning, and multi-day training sessions. Provided 6+ months of post-commissioning support to ensure smooth operations.
- **Data Systems & Automation** — Customized Data Acquisition Systems (DAS) and measurement instruments to meet specific engine and facility requirements. Built real-time dashboards, automated test sequences, and post-analysis templates to enhance accuracy and usability of results.
- **Technical Documentation & Compliance** — Authored and supervised specifications, design briefs, GA drawings, verification plans, and engineering coordination memos. Ensured rigorous safety, quality, and regulatory compliance (Lockout/Tagout, ESD, environmental).
- **Business Development** — Collaborated on technical proposals, bids, and tenders, aligning MDS's solutions with client needs and industry trends to secure new contracts and long-term partnerships.
- **International Scope & Clients** — Delivered projects for top-tier clients across 8+ countries, including Air France, Safran, Rolls-Royce/NASA, Lockheed Martin, and StandardAero.



Combustion & Pollutant Emissions Engineer — Aerothermal Siemens Canada (formerly Rolls-Royce Canada) — Research and Technology

January 2013 — December 2013 | Montreal (QC), Canada

- **Emissions Monitoring** — Operated advanced gas analyzers (FTIR, FID, O₂ CEMS) on gas turbine testbeds to monitor pollutant emissions under varied conditions, ensuring compliance with EPA/ISO standards and improving emissions profiling accuracy.
- **Biofuel Evaluation** — Assessed 10+ biodiesel and syngas fuel blends, analyzing their impact on emissions, smoke production, and lean blowout limits to support GHG-reduction initiatives and operational cost savings.
- **Combustion Modeling** — Developed CFD models in ANSYS Fluent to simulate biofuel injection and combustion processes, optimizing injector and burner designs while benchmarking performance against conventional jet fuels.



Graduate Research & Teaching Assistant — with Dr. Alain De Champlain Combustion Engineering Research Laboratory, Laval University

January 2011 — May 2013 | Quebec City (QC), Canada

- **Biofuel Combustion Research** — Investigated liquid and gaseous biofuels in gas turbine combustion, designing and executing experiments with swirl combustors to measure efficiency and emissions. Used FTIR spectroscopy for gas analysis and Particle Image Velocimetry (PIV) to study spray characteristics (droplet size, velocity, penetration).
- **Experimental Setup & Data Analysis** — Built and calibrated lab setups (flow controllers, injectors, chambers, sensors) and developed custom VBA/Excel programs for data acquisition and analysis. Optimized test procedures and validated results against models and empirical correlations.

- **Mentoring & Teaching** – Supervised junior researchers and interns, led Thermodynamics lab sessions, and graded reports. Maintained WHMIS and laser safety compliance while documenting findings in technical reports and publications.

ADDITIONAL PROJECTS & EXPERIENCE

- **Independent Research** – Explored adaptive structures and FEA in fluid dynamics using ANSYS and Pro/E (Florida Tech, 2010).
- **Formula SAE** – Led powertrain design and composite bodywork; developed team website (Florida Tech Motorsports, 2008–2009).
- **Engineering Internship** – Maintained and repaired dental equipment (Prestige Dentaire, France, 2006).
- **Military Volunteer** – Supported operations at Hatzerim Air Force Base with Israeli Army (Sar El Program, 2005).

EDUCATION



Laval University — M.Sc. Mechanical Engineering (ABD) | Quebec City, QC | Dec 2013

Focus: Combustion and alternative fuels research; completed advanced coursework in combustion, propulsion, and CFD.



Florida Institute of Technology — B.Sc. Mechanical Engineering | Melbourne, FL | May 2010

Honors: Best Senior Design Project (Formula SAE). *Highlights:* Extensive coursework in thermodynamics, fluid mechanics, heat transfer, and machine design.



SKEMA Business School — B.Sc. Mechanical Engineering | Sophia Antipolis, France | Jan 2007

Completed foundational engineering as part of dual-degree.



Carleton University — Mechanical Engineering Research | Ottawa, ON | Summer 2012

Conducted PIV/PDPA fluid dynamics testing.

PUBLICATIONS & AWARDS

- Co-author of two peer-reviewed conference papers on biofuel combustion and emissions, presented at the Combustion Institute Canadian Section meetings in 2012 and 2013. (Titles: “**Emission Measurements of Various Biofuels using a Commercial Swirl-Type Air-Assist Dual Fuel Injector**” (with presentation)” and “**Comparative Study for Biodiesel Properties and Standards for Gas Turbine**” (with presentation)”)
- Best Mechanical Engineering Senior Design Project – Florida Tech Motorsports (2009)

CERTIFICATIONS & TRAINING

- PMP® Exam Prep Seminar – Project Management Professional preparation (2018)
- Industrial & Workplace Safety – WHMIS (2022), Electrical Safety & Lockout-Tagout (2022), ESD Control (2022)
- First Aid & Emergency Response – Standard First Aid & CPR/AED, Level C (2021)
- Technical & IT Training – IT Risk & Cybersecurity Awareness (2019), Aerial Lifts & Work Platforms (2017)
- Construction & Site Access Readiness – Working at Heights Certification (2019), compliant with fall protection standards

PROFESSIONAL AFFILIATIONS

Member of ASME and SAE. Licensed Professional Engineer (P.Eng., PEGNL).