



CONTACT

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LANGUAGES

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

Mechanical Aerospace Engineer | Entrepreneur
Project Management | Systems Integration

Experienced mechanical and aerospace engineer with over 12 years of experience leading multidisciplinary engineering projects across aerospace, energy, and technology sectors. Proven track record in systems integration, data acquisition, gas turbine testing, and robotic systems for space applications. Entrepreneurial and adaptable, with additional experience in business operations, media production, and consulting. Skilled in cross-functional leadership, full project lifecycle execution, and aligning technical solutions with organizational goals. Bilingual in French and English, with a collaborative, results-driven approach to innovation and continuous improvement.

EXPERIENCE

Accounting & Operations Administrator

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

2024 — present

Vancouver (BC), Canada

- **Financial Management** — Oversee daily financial workflows. Administer invoicing for 100+ clients, process contractor payments via RBC PayEdge, and manage subscription transactions using Kajabi, Stripe, and PayPal.
- **Team Coordination** — Lead a cross-functional admin team (4–6 people), including tech/media support and moderators; optimize workflows in collaboration with the CEO.
- **Data Systems Development** — Designed a centralized Google Sheets database (CRM) for tracking student enrollment, subscriptions, payments, and sales, enhancing reporting accuracy.
- **Reporting & Analysis** — Produce weekly dashboards to support strategic planning and data-driven decisions.
- **Customer Support** — Resolve client access and payment issues through email and Slack; track failed transactions to ensure account integrity.
- **Process Improvement** — Standardize payment and contract workflows to increase efficiency and enforce compliance.

Founder & Consultant — Independent Ventures

Entrepreneurship

July 2023 – Present (concurrent with other roles)

Victoria (BC) Canada

- **Aerial Media Production** — Establish and operate a drone-based imaging and video production service, delivering high-quality aerial photography and videography for diverse clients. Notable projects include coverage for conferences at the Fairmont Empress Hotel, the University of Victoria, Christ Church Cathedral, and the Alliance Française Victoria. These projects enhanced client marketing efforts and increased audience engagement.
- **Live Streaming Services** — Produce and manage live-streaming projects for various events, specializing in remote locations across Vancouver Island. Customized streaming solutions to meet client needs, effectively bridging distances for families and communities, and providing training to remote workers.
- **Engineering Consulting** — Advised industrial clients on the installation of industrial ovens and deployment of power backup systems for production plants. Delivered comprehensive solutions from conceptual design to implementation, focusing on efficiency, reliability, and safety to optimize operational performance.

Restaurant Operations Project Manager (Pre-Launch)

March 2024 – September 2024

Victoria (BC), Canada

- **Pre-Launch Execution** — Led the full pre-operational development of a new vegetarian buffet restaurant, including site selection, lease negotiation, permitting, recruiting and renovations. Although the launch was ultimately canceled, all planning and execution phases were successfully completed.
- **Business Planning** — Developed a comprehensive business plan encompassing market analysis, brand positioning, pricing strategy, and financial projections aligned with the buffet service model.
- **Operations & Regulatory Compliance** — Directed procurement, kitchen layout planning, and workflow design in line with the restaurant concept, while ensuring full adherence to local health, safety, and food service regulations, including FoodSafe certification and municipal inspections.
- **Menu & Recipe** — Partnered with chefs to create, cost, and test a diverse, buffet-style farm-to-table menu (where feasible), reflecting the brand's nutritional and seasonal values.
- **Supplier & Vendor Management** — Built and maintained a network of local, sustainable suppliers. Negotiated and renewed vendor contracts for produce, kitchen equipment, cleaning services, and buffet infrastructure.

Career Break — Personal and Family Development

February 2023 — July 2023

Ottawa (ON), Canada to Victoria (BC), Canada

- **Family Focus & Relocation** — Relocated from Ontario to British Columbia to support family needs; engaged in professional development through online courses and workshops, enhancing adaptability and time management skills for a seamless return to the workforce.



Senior Systems/ Project Engineer — Robotics & Space Operations

MDA

February 2022 — February 2023

Brampton (ON), Canada

- **End-to-End Systems Engineering** — Led the full lifecycle development of advanced on-orbit and planetary robotic systems (e.g., robotic arms, autonomous systems for mars/lunar/international/space station), from requirements architecture and trade studies through design, integration, documentation, and on-orbit verification, ensuring alignment with mission goals and timelines.
- **Project Management** — Managed day-to-day execution across multi-disciplinary teams (mechanical, software, electrical, mission ops), ensuring delivery against technical, budgetary, and schedule commitments.
- **Test & Verification Leadership** — Developed and executed comprehensive test plans, coordinated integration and verification activities, and validated system performance against rigorous spaceflight criteria.
- **Design Optimization** — Applied methodologies such as design-to-cost and design-for-manufacture to streamline development, improve system robustness, and reduce integration time.
- **Technical Documentation & Analysis** — Produced detailed system specifications, interface definitions, and analysis reports to support internal reviews, client deliverables, and mission readiness.
- **Problem Solving & Support** — Diagnosed system anomalies through telemetry and root cause analysis, proposing corrective actions and supporting successful mission operations and handovers.
- **Business Synergy** — Worked alongside project managers and stakeholders to keep projects on track and aided in cost estimation and proposals.



Gas Turbine Applications Engineer — Systems Integrator

MDS Gas Turbine Engine Solutions

December 2013 — February 2022

Ottawa (ON), Canada

- **Turnkey Facility Development** — Led the design and deployment of custom-built gas turbine test facilities for aviation, industrial, and marine applications. Key areas of focus included:
 - Development of Data Acquisition Systems (DAS) and associated software development
 - Design of instrumentation and control systems
 - Engineering of mechanical systems, encompassing both static and dynamic components, including rotor-dynamics

- Aerodynamic and acoustic design considerations
 - Environmental engineering to meet regulatory standards
 - Oversight of production, assembly, integration, and testing processes
 - Comprehensive facilities planning and construction management
- **Technical Leadership & Systems Integration** — Translated client requirements into detailed project specifications, developed work breakdown structures, and executed comprehensive project plans. Managed cross-functional teams through design, procurement, manufacturing, assembly, installation, commissioning, and testing phases. Ensured seamless integration of multidisciplinary subsystems, coordinating with internal departments and external stakeholders to achieve holistic system conformance.
 - **Procurement Oversight** — Played a pivotal role in vendor selection and procurement processes. Managed interfaces with Enterprise Resource Planning (ERP) systems to streamline procurement activities and ensure timely delivery of components and services.
 - **Client Engagements** — Represented the company in international settings for design consultations, on-site inspections, and commissioning activities. Conducted comprehensive Acceptance Test Procedures (ATP) with clients and provided post-deployment support and tailored training sessions.
 - **Data Systems Expertise** — Customized Data Acquisition Systems (DAS) and measurement instruments to meet specific client requirements. Developed post-analysis report templates, real-time display interfaces, and automated test sequences to enhance data accuracy and usability.
 - **Gas Turbine Proficiency** — Defined critical engine and facility metrics for gas turbine testing, ensuring accurate data capture and analysis. Designed operational consoles integrating Human-Machine Interface (HMI) controls and developed comprehensive verification and test plans.
 - **Technical Documentation** — Authored and supervised the creation of key technical documents, including Engineering Specifications (ES), Design Briefs (DB), General Arrangement (GA) drawings, Purchase Requests (PR), and Engineering Coordination Memos (ECM). Focused on documentation for data acquisition software components, control/test systems, console design, and customer support protocols.
 - **Customer Support** — Delivered extensive client training programs, both on-site and remotely, to ensure effective operation of gas turbine testing systems. Provided ongoing support during and beyond the commissioning phase (6+ months), troubleshooting system anomalies and implementing appropriate technical resolutions.
 - **Business Development** — Actively contributed to the company's growth by crafting compelling bids, proposals, and tenders, aligning technical solutions with client needs and market trends.

- **Project Highlights:** Delivered projects for Maintenance, Repair, and Overhaul (MRO) and Research and Development (R&D) sectors. Significant contributions include:

MRO facilities:

- ✓ **Air France Industries KLM Engineering & Maintenance (France):** Worked on engine models including CFM56-5B, CFM56-7B, GE90-115B, GE90-94B, EA GP7200, GENx-1B, and GENx-2B.
- ✓ **GKN Aerospace (Sweden):** Handled projects involving Volvo RM12 and RM16 engines for the Gripen fighter jet.
- ✓ **StandardAero (Canada)** (formerly Vector Aerospace): Focused on various P&WC JT15D engine variants.
- ✓ **Lockheed Martin Commercial Engine Solutions (Canada):** Managed a range of CFM56 variants and GE CF6-50C2.
- ✓ **Safran Aircraft Engine Services Morocco (Morocco):** Worked on multiple CFM56 engine variants.
- ✓ **Rolls-Royce (UK):** Contributed to engine console projects.
- ✓ **GA Telesis Engine Services (Finland):** Handled CFM56-5B, CFM56-7B, and GE CF6-80C2 engines.

R&D facilities:

- ✓ **Rolls-Royce / NASA Stennis Space Center (USA):** Developed and conducted certification testing for an outdoor jet engine test facility.
- ✓ **Safran Aircraft Engines (France):** Performed certification testing for the CFM LEAP-1A and endurance testing for the CFM56 engines.
- ✓ **MAN Energy Solutions (Germany):** Worked on industrial gas turbines MGT6000-2S and MG8000-1S.
- ✓ **Siemens (Canada):** Handled projects involving the industrial RB211 gas turbine.
- ✓ **MDS AeroTest / GLACIER Test Facility (Canada):** Provided support for emissions analyzer systems.
- ✓ **AVIC Commercial Aircraft Engines / AECC (China):** Conducted development testing for fan, booster, high-pressure compressor (HPC), and turbine components.
- ✓ **Shanghai Electric Blower Works Co. (China):** Engaged in development testing for compressors.



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

January 2013 — December 2013

Montreal (QC), Canada

- **Pollutant Monitoring** — Operated pollutant measurements on Gas Turbine testbeds using sophisticated gas analyzers such as FTIR, FID, and O₂ CEMS (Continuous Emission Monitoring Systems).
- **Emissions Analysis** — Enhanced data processing techniques for non-traditional pollutant emissions, ensuring more accurate results.
- **Biofuel Assessment** — Evaluated and characterized promising liquid (biodiesel blends) and gaseous (syngas blends) biofuels. Examined their impact on smoke & emissions, lean blowout, and potential to reduce greenhouse gases and operational costs.
- **Combustion Modeling** — Developed a comprehensive numerical model for predicting biofuel injection and combustion using Computational Fluid Dynamics (CFD).
- **Performance Analysis** — Compared biofuels with baseline fuels to examine the benefits while maintaining an acceptable overall combustion performance.



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

January 2011 — May 2013

Quebec City (QC), Canada

- **Biofuel Research** — Developed applications of liquid and gaseous biofuels for Gas Turbines and aircraft propulsion.
- **Emissions Analysis** — Operated cutting-edge FTIR (Fourier Transformation Infrared) spectroscopy technology for a detailed combustion gas emissions study within swirl combustors.
- **Spray Analysis** — Carried out in-depth experimental spray tests, leveraging Particle Image Velocimetry (PIV) and Computational Fluid Dynamics (CFD) techniques. The focus was predicting biodiesel spray attributes such as droplet size, velocity, and penetration.
- **Experimental Setup** — Designed and set up equipment for experiments, calibrated instrumentation, optimized data collection methods, and established benchmarks for test results. Executed hands-on tasks, including soldering, wiring, and the assembly of process equipment (mass flow controllers, piping, pumps, pressure chambers, heaters, valves, injectors, and heat exchangers).
- **Data Management** — Launched a comprehensive Data Acquisition System (DAS), tailored a VBA program for extensive data interpretation, and contrasted test findings against empirical evidence.
- **Mentorship** — Trained and supervised international summer interns and managed the team's technical proficiency.
- **Documentation** — Authored detailed technical reports, documenting test protocols, safety measures, and research findings.
- **Safety Training** — Rigorously completed WHMIS and WORKSMART training modules, ensuring the lab environment upheld paramount safety standards.
- **Teaching Duties** — Crafted lectures on MAE Thermodynamics, directed laboratory sessions, and critically assessed student submissions in the form of lab reports ensuring academic rigour and understanding.



Independent Study in Mechanical Engineering — with Dr. Razvan Rusovici Florida Institute of Technology

January 2010 — June 2010

Melbourne (FL), USA

- **Research Focus** — Explored adaptive structures, emphasizing finite element analysis in fluid dynamics and acoustics.
- **Technical Tools** — Utilized CAD and CAE software, specifically Pro/E, ANSYS, and CFX, for in-depth analysis.



Formula SAE Series — with Stephanie Hopper and Dr. Youngsik Choi Florida Tech Motorsports (FIT)

November 2008 — May 2009

Melbourne (FL) & Michigan International Speedway (MI), USA

- **Powertrain Leadership** — Supervised the powertrain division, delving into engine management, differential dynamics, simulation, rigorous testing, and holistic optimization. This involved extensive application of industry-standard CAD and CAE platforms, including SolidWorks, Cosmos Design, and ANSYS.

- **Composite Craftsmanship** — Conceived and executed the design for the vehicle's composite bodywork, emphasizing durability, aerodynamics, and aesthetics.
- **Digital Engagement** — Pioneered and developed the Florida Tech Motorsports website, creating an online presence and platform for sharing team achievements, updates, and engagements



Service Engineer (intern)

Prestige Dentaire

June — July 2006

Nice, France

- Executed maintenance of dental equipment.
- Overhauled mechanical, plumbing, and electrical devices.



Military Experience (volunteer) — Sar El Program

Tsahal, Israeli Army Training Program

July — August 2005

Hatzerim Air Force Base, Israel

- Contributed to the Israeli Army's training program, volunteering at the Hatzerim Air Force Base as part of the esteemed Sar El initiative.

SKILLS & ABILITIES

❖ **Industry Knowledge:**

- Systems Integration, Systems Engineering, Project Engineering, Project Management
- Aerospace Engineering, Business Strategy, Testing, and Simulations

❖ **Domain Expertise:**

- Turbomachinery, Gas Turbines/Jet Engines/Propulsion, Data Acquisition Systems
- Aerodynamics, Thermodynamics, Combustion, Fluid Dynamics, Energy and Climate Change

❖ **Tools & Software:**

- **CFD & Simulation:** Ansys Fluent, Ansys CFX, Ansys ICEM CFD, GAMBIT
- **CAD/FEA:** AutoCAD, SolidWorks, Pro/ENGINEER & Creo, CATIA, ANSYS Workbench & APDL, Cosmos Design, CNC Software/Mastercam
- **Data Acquisition:** NI LabVIEW, proDAS/nxDAS, iDDS, LaVision FlowMaster
- **Programming & Scripting:** MS Excel/VBA, Python, MATLAB, Java, SQL, HTML/CSS, XML, Apache, LaTeX, Mediawiki
- **Productivity & Collaboration:** MS Office 365, Unix/Linux (CentOS, Red Hat, Ubuntu), Networking, Google Workspace, Adobe Suite (Photoshop, Lightroom, XD, Premiere Pro), VMware, Wi-Fi Security (e.g., Kali Linux), Git/Subversion, Bug Tracking (e.g., Bugzilla, JIRA)
- **Hardware Skills:** Network Configuration, Tech Support, WAN/LAN and Routers
- **Product Lifecycle Management:** PTC Windchill, Omnify Empower

❖ **Interpersonal Skills:** Problem Solving, Team Leadership, Engineering Management, Training, Teaching, Negotiation

❖ **Languages:** English (Bilingual), French (Native), Spanish (Limited working proficiency), Italian (Elementary), Hebrew (Elementary)

EDUCATION



Laval University

M.S. Mechanical Engineering with Experimental Thesis. (ABD)

December 2013

Quebec City (QC), Canada

- Research Assistant (Combustion Laboratory).

- Teaching Assistant (MAE Thermodynamics).
- Laser Safety Certificate & WHMIS (Workplace Hazardous Materials Information System) qualified.
- Relevant courses completed:
 - Combustion Fundamentals (+CFD)
 - Internal Combustion Engines (+CFD)
 - Propulsion/ Air-breathing Engines (+CFD)
 - Data Acquisition and Signal Conditioning
 - Systems Optimization
 - Control Systems



Carleton University
Summer Program, Mechanical Engineering

Summer 2012
 Ottawa (ON), Canada

- Conducted experimental tests using PIV (Particle Image Velocimetry) and PDPA (Phase Doppler Particle Analyzer).



Florida Institute of Technology
B.S. Mechanical Engineering (Dual-Degree program)*

May 2010
 Melbourne (FL), USA

- Contributed as a Powertrain Division member and Bodywork designer for Formula SAE.
- Relevant courses completed:
 - Computer-Aided Engineering
 - Aerodynamics and Flight Mechanics
 - Design of Machine Elements
 - Mechanical Vibrations
 - Fluid Mechanics (+Lab)
 - Heating Ventilation and Air Conditioning (HVAC)
 - Mechanical Engineering Design 2
 - Thermal Systems Design
 - Thermodynamics 2
 - Heat Transfer (+Lab)
 - Control Systems
 - Electric & Electronics Circuits
 - Theory of Machines
 - Materials Science and Engineering (+Lab)
 - Calculus 3
 - Boundary Value Problems
 - Technical Communication
 - Engineering Economy & Planning
 - Music Theory



SKEMA Business School (formerly Euro-American Institute of Technology)
B.S. Mechanical Engineering (Dual-Degree program)*

January 2007
 Sophia Antipolis, France

- Relevant courses completed:
 - Thermodynamics 1
 - Aerodynamics
 - Statics & Dynamics
 - Deformable Solids
 - Physics 2 (+Lab)
 - Computer-Aided Design and Drafting
 - Software Development: Java & C++
 - General Chemistry
 - Ethics

* Florida Institute of Technology and SKEMA Business School are part of a dual-degree program and thus share a common graduation project.

Lycée Général et Technologique Les Eucalyptus

June 2004
 Nice, France

- ❖ High school, Baccalauréat Science Stream (S), Specialization Physics & Chemistry, Option Engineering Sciences.

PUBLICATIONS / CONFERENCE PAPERS

- J. Agou, B. Paquet & A. deChamplain. "[Emission Measurements of Various Biofuels using a Commercial Swirl-Type Air-Assist Dual Fuel Injector](#)" (with presentation), *The Combustion Institute Canadian Section (CICS), Spring Technical Meeting, Université Laval, Quebec, Canada, May 13-16, 2013*

- M. Youssef, J. Agou, B. Paquet & A. deChamplain. "[Comparative Study for Biodiesel Properties and Standards for Gas Turbine](#)" (with presentation), *The Combustion Institute Canadian Section (CICS), Spring Technical Meeting, University of Toronto, Ontario, Canada, May 13-16, 2012*

CERTIFICATIONS & TRAINING

- [Aerial Lifts & Aerial Work Platforms \[Mar 2017\]](#), Worksite Safety Compliance Center, Certificate 156AWP-64
- [Airport Security Awareness Training Certificate \[Jun 2014\]](#), Butterfly Aero Training, License GB81580A20140623
- [AODA Customer Service Training \[Sep 2014\]](#), MDS Gas Turbine Engine Solutions
- [AODA Training \[Feb 2022\]](#), MDA
- [COVID-19 Employee Health and Safety Training \[Jun 2020\]](#), MDS Gas Turbine Engine Solutions
- [Electrical Safety Awareness \[Feb 2022\]](#), MDA
- [Elevated Work Platform - Safety Training](#), CRS Contractors Rental Supply
- [Emergency First Aid – Cardiopulmonary resuscitation \(CPR\) and automated external defibrillator \(AED\)](#), Canadian Red Cross, Jennifer Sybrandy, Certificate 30200842
- [ESD \(Electrostatic Discharge\) Control \[Feb 2022\]](#), MDA
- [Fall Protection - Safety Training](#), CRS Contractors Rental Supply
- [Instant HR - Workplace Hazards Training](#), MDS Gas Turbine Engine Solutions
- [IT Risk and Cybersecurity Training for Employees \[Aug 2019\]](#), MDS Gas Turbine Engine Solutions
- [Laser Safety Certificate \[May 2011\]](#), Université Laval, License CAN/CSA E-60825-1:03; IEC 60825-1
- [Laser Safety Training \[Feb 2022\]](#), MDA
- [Lockout/Tagout - Control of Hazardous Energy Training](#), MDS Gas Turbine Engine Solutions
- [NEXUS \[Jan 2019\]](#), Canada Border Services Agency
- [Occupational Health and Safety Awareness Training for Workers in Ontario](#), MDS Gas Turbine Engine Solutions
- [PMP® Exam Prep Seminar \[Nov 2018\]](#), Instructingcom, LLC, ID 109EPSWB
- [Standard First Aid and CPR level C and AED \[Jul 2021\]](#), Ottawa Paramedic Service
- [Task Area Awareness \[Feb 2022\]](#), MDA
- [WHMIS Training \[Jan 2015\]](#), MDS Gas Turbine Engine Solutions
- [WHMIS \(Workplace Hazardous Materials Information System\)](#), Université Laval
- [WHMIS 2015 New Hire Assessment \[Feb 2022\]](#), MDA
- [Working at Heights Training \[Aug 2019\]](#), LaborTek Personnel, WAH-34595
- [Working at Heights Training \[Jul 2016\]](#), Safety Training Ottawa, WAH-34633

AWARDS

Engineering & Science Student Design Showcase

April 2009

Melbourne, FL

- ❖ Best Mechanical Engineering Senior Design Project award with Formula SAE Project (Florida Tech Motorsports).

GROUPS & ASSOCIATIONS

- ❖ American Society of Mechanical Engineers (ASME), [Member #102114839](#)
- ❖ Society of Automotive Engineers International (SAE), Member #6153388042 since 2009
- ❖ Professional Engineers and Geoscientists Newfoundland & Labrador (PEGNL)
- ❖ Project Management Professional (PMP®), [In progress](#) - Expected completion summer 2025.

INTERESTS

Soccer, Karate (purple belt), Windsurfing (purple sail), Wakeboarding, Cycling, Skiing.
Cinema, Music (DJ), Photography & Graphic Design, Traveling, High-Tech, Innovation.