Ishtier Rahman

M.Eng., EIT, CSWA, LEED Green Associate

ishtier.rahman@gmail.com • (343)-262-1719
LinkedIn • London, ON N6A 0E1

Summary

Mechanical Engineer with 4+ years of experience in industrial mechanical systems, applied design support, and engineering analysis. Proficient in SOLIDWORKS, AutoCAD, and ANSYS Fluent for 3D modeling, system layout modifications, and performance simulation. Experienced in equipment specification, commissioning, and technical documentation aligned with CSA/CUL and ISO 50001. Combines field engineering expertise with analytical problem-solving to deliver reliable and optimized mechanical system solutions.

Areas of Expertise

- Mechanical System Design Support (Layouts/Retrofits)
- Mechanical Design & Analysis (Thermal/Fluids)
- 3D CAD Modeling & 2D Drafting
- HVAC & Compressed Air Systems
- Equipment Specification & Component Selection
- Technical Documentation (P&IDs, Schematics, Specs)
- System Commissioning, Testing & Field Validation
- Root Cause Failure Analysis (RCFA)
- Operational Efficiency & Energy Optimization
- Project Coordination & Execution (Vendors/Clients)

Technical Skills

- **Design & Drafting:** SOLIDWORKS (CSWA), AutoCAD
- **Simulation & Analysis:** ANSYS Fluent (CFD), MATLAB, Minitab
- **Energy Tools:** RETScreen, System Advisor Model (SAM)
- **Programming:** Python
- **Systems & Documentation:** SAP, LaTeX, MS Office

Work Experience

US Air Compressor, Burlington, ON **05/2025 – Present**
Maintenance and Technical Support Engineer

- Provide engineering support for industrial compressed air systems including performance validation, troubleshooting, and system optimization across manufacturing facilities.
- Support retrofit and installation projects by updating system layouts and component configurations in SOLIDWORKS/AutoCAD and maintaining accurate schematics and P&IDs.
- Assist with equipment sizing and specification (compressors, dryers, filters, receivers, controls) to meet performance targets and CSA/CUL requirements.
- Contribute to commissioning and startup verification, resolving integration and performance issues during field validation and upgrades.
- Implement energy optimization initiatives (VFD tuning, leak reduction), delivering estimated client savings of $20K–$30K annually.
- Develop and maintain technical documentation (procedures, specs, drawings) aligned with ISO 50001 and internal quality standards.
- Apply RAMS (Reliability, Availability, Maintainability, Safety) principles to reduce mean time to repair (MTTR) by 15% and extend equipment lifespan.

Wellwise Home Health & Wellness, London, ON **09/2024 – 05/2025**
Customer Service & Technical Support Associate

- Advised customers on product selection and performed basic troubleshooting of home medical equipment.
- Supported order processing, inventory coordination, and documentation, improving workflow efficiency by 15%.
- Collaborated with service teams to resolve issues efficiently and maintain quality standards.

Carleton University, Ottawa, ON **09/2021 – 04/2023**
Graduate Teaching Assistant

- Facilitated labs/tutorials and supervised sessions for 300+ students supporting course delivery.
- Prepared and organized 25+ course materials (lab manuals, assignments, lecture notes).
- Provided tutoring and feedback for 100+ students/term, contributing to improved performance based on evaluations/grades.

AVOS Ltd., Dhaka, Bangladesh **03/2019 – 07/2021**
Maintenance Engineer

- Increased equipment performance by 25% and eliminated recurring breakdowns by planning and conducting thorough inspections, troubleshooting issues, and performing detailed maintenance activities on 50 machinery systems.
- Analyzed recurring failures and supported engineering modifications (component changes/process adjustments) to improve performance and reduce repeat breakdowns.
- Achieved a 15% reduction in unplanned downtime, saving approximately 500K BDT annually and improved operational efficiency by designing and implementing robust preventive maintenance schedules.
- Documented all maintenance activities, including equipment status, detailed repairs, and comprehensive maintenance logs to ensure accurate performance tracking and facilitate future troubleshooting.
- Directed the installation, repair, and commissioning of 30+ new machines, collectively valued at over 1.2 million BDT, ensuring smooth integration and sustained operational efficiency.
- Maintained a safe and compliant work environment by adhering to occupational safety and environmental regulations.
- Conducted biannual assessments of emerging reliability technologies, leading to the adoption of advanced predictive maintenance tools and techniques that increased overall asset availability by 15%.
- Delivered monthly training sessions to maintenance staff, upskilling a team of 10+ technicians in predictive maintenance, troubleshooting techniques, and precision alignment, enhancing team efficiency.

Biman Bangladesh Airlines, Dhaka, Bangladesh **01/2017 – 04/2017**
Mechanical Engineering Trainee

- Conducted aircraft system inspections using NDT techniques in compliance with safety regulations.
- Assisted in aircraft maintenance, repair, and component overhaul procedures.
- Supported documentation and system upgrade projects to enhance performance and reliability.

Selected Engineering & Simulation Project

Computational Analysis of Wind Flow Over Building Rooftops **2018 – 2019**

- Conducted CFD simulations using ANSYS Fluent to analyze wind flow over various rooftop geometries (dome, filleted, half-wedge, convergent, tulip).
- Assessed velocity profiles and contours to evaluate the impact of geometry on air movement and turbine placement.
- Compared geometric performance and identified dome/filleted profiles as providing enhanced wind speed amplification over conventional designs.

Numerical Analysis of Flow & Heat Transfer Between Parallel Plates with Constrictions **2017 – 2018**

- Developed CFD models to study flow acceleration, turbulence, and convective heat transfer with varying geometry.
- Evaluated pressure, velocity, temperature, heat transfer coefficient, and Nusselt number across multiple design cases.
- Performed parametric studies by changing block size/quantity and analyzed recirculation effects on thermal performance.

Education

Master of Engineering in Mechanical Engineering – *Carleton University, Ottawa, ON, Canada (2021-2024)*

Master of Science in Renewable Energy Technology – *University of Dhaka, Dhaka, Bangladesh (2018-2021)*

Bachelor of Science in Mechanical Engineering – *Military Institute of Science and Technology, Dhaka, Bangladesh (2014-2018)*

Professional Certifications & Training

- **Engineer in Training (EIT), EGBC**
- **Certified Associate in Project Management (CAPM), PMI**
- **Certified SOLIDWORKS User (CSWA, Sustainability, Additive Manufacturing), Dassault Systèmes**
- **CSA Certification Training (CSA C22.2 No. 68 & SPE-1000), US Air Compressor**
- **LEED Green Associate, GBCI**