Muhammad Hassan, P.Eng

Senior Process Engineer | Lean Six Sigma Black Belt (LSSBB)
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Data-driven Senior Process Engineer, P.Eng with 6+ years optimizing high-volume logistics operations through Python, SQL, Power BI, and Lean Six Sigma to deliver measurable gains in throughput, cost, and process stability.

TECHNICAL SKILLS

Programming & Data - Python (Pandas, NumPy, Scikit-Learn), SQL (Teradata), R, MATLAB
Analytics & BI - Power BI, Excel, Tableau, Minitab
Process & Quality - Lean Six Sigma (Black Belt), DMAIC, FMEA, SPC, Cp/Cpk, RCA
Engineering - SolidWorks, CATIA, AutoCAD, ANSYS
Tools - MS Office, Visio

EDUCATION

MS in Computer Science (Artificial Intelligence) | In Progress
Georgia Institute of Technology (Georgia Tech) — Online
2025–2027

BASC in Mechanical Engineering
University of Windsor — Windsor, ON, Canada
2015–2019

EMPLOYMENT EXPERIENCE

Senior Process Engineer
Canada Post — Toronto, ON, Canada
2019–Present

Process Improvement & Efficiency

- Drove 25% reduction in MLOCR utilization (10 → 7 units) by automating system performance analysis using Python, lowering maintenance demand and operating costs.
- Analyzed plant-floor throughput and material-flow data in Power BI, enabling MLOCR removal, outbound lane expansion, improved space utilization, and deferral of capital equipment.
- Developed Python (Pandas) load-balancing models that reduced PPH variability from 8% to 5%, improving throughput stability and service reliability.
- Standardized load-balancing practices by developing SOPs and training operators, increasing conveyor and dispatch lane efficiency while reducing handling errors.
- Led FMEA initiatives to eliminate gravity conveyor blockages, increasing PPH and reducing parcel damage, jams, and rework.

Product Quality & Cost Control

- Improved process stability and Cp/Cpk using Python, R, and Minitab, reducing defects, rework, and associated operational costs.
- Designed Power BI dashboards incorporating Cause-and-Effect (Fishbone) analysis, delivering 20% cycle-time reduction and 15% productivity improvement.
- Built an SQL (Teradata) delivery space calculator to optimize parcel skid staging, improving transport utilization and minimizing loading damage.
- Performed Measurement System Analysis (Gage R&R) on parcel dimensioning and weight capture systems, strengthening data integrity for downstream sorting and load-planning decisions.

Technical Expertise & Data Innovation

- Built Python-based scenario models to simulate lane configurations, staffing strategies, and service-level trade-offs under variable parcel volumes.
- Designed SQL + Power BI analytics solutions for inbound and outbound parcel staging optimization across multiple Canada Post depots.
- Developed Teradata SQL and ETL pipelines to extract, transform, and analyze high-volume operational data supporting real-time and strategic decision-making.

CERTIFICATIONS

- Professional Engineer, P.Eng — Professional Engineers Ontario (PEO)
- Lean Six Sigma Black Belt (LSSBB)