

GIULIO BIROLINI

Mechanical Engineer

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SUMMARY

Mechanical Engineer (BS + MS) with 4 years of industrial experience spanning Engineer-to-Order project engineering, Lean Manufacturing, and quality operations. Background includes technical compliance with ASME and TEMA standards on custom industrial equipment, combined with data-driven process optimization using Python and analytical tools.

EDUCATION

Master of Science in Mechanical Engineering

Specialization: Process Optimization

University of Bergamo, Bergamo, Italy | Graduated: June 2020

Bachelor of Science in Mechanical Engineering

University of Bergamo, Bergamo, Italy | Graduated: June 2016

Advanced Studies in Data Science and Business Analytics

Focus: Applied Industrial Analytics

Handong Global University, Pohang, South Korea | 2023 – 2024

PROFESSIONAL EXPERIENCE

Expert Network Consultant – Manufacturing & Industrial Engineering

GLG (Gerson Lehrman Group) · Contract | Palm Beach County, FL · Remote | January 2026 – Present

- Provided expert advisory services on industrial manufacturing processes, operational efficiency, and Lean Six Sigma methodologies to institutional clients through GLG's expert network platform.
- Drew on hands-on experience in continuous improvement, process optimization, and production analytics to support client research and investment due diligence.

Industrial Engineer – Operations Analytics

Phoenix International S.p.A., Italy | February 2022 – March 2023

- Led a Lean Six Sigma Green Belt project in the manual turning department, reducing process waste by 33% through root cause analysis and targeted corrective actions
- Integrated Lean Manufacturing and Six Sigma (DMAIC) principles with statistical analysis to improve throughput and process stability
- Supported a team in creating automated performance dashboards to monitor OEE, cycle time, and quality KPIs in real-time
- Applied statistical process control (SPC) and regression analysis using Minitab to identify process variations and implement corrective actions

Project Engineer – Industrial / Manufacturing Engineering

O.V.S. Officine Valle Seriana S.p.A., Italy | July 2020 – February 2022

- Supported Engineer-to-Order projects through technical and operational analysis, ensuring delivery under cost, schedule, and quality constraints
- Collaborated with cross-functional teams (engineering, production, quality) to optimize manufacturability and process efficiency for custom industrial equipment
- Conducted capacity analysis and production planning to meet project milestones while maintaining resource utilization efficiency
- Verified technical compliance with ASME Boiler and Pressure Vessel Code and TEMA heat exchanger standards

Industrial Engineer

CMS Costruzione Macchine Speciali S.p.A., Italy | April 2019 – March 2020

- Supported Lean Manufacturing and continuous improvement initiatives on the production floor, reducing waste and cycle time through value stream mapping and standard work implementation
- Applied time-motion studies and root cause analysis (5 Whys, Fishbone diagrams) to identify bottlenecks and implement process improvements
- Focused on implementing standard work, Kanban systems, and andon boards displaying interactive KPIs to improve workflow visibility and real-time production monitoring
- Collaborated with operators and supervisors to establish standard work procedures and visual management systems, enhancing workplace organization through 5S methodology

TECHNICAL SKILLS

CAD & Engineering Design: AutoCAD, Autodesk Inventor, Solid Edge, GD&T, Engineering Drawings & Blueprints, Design for Manufacturability (DFM), Bill of Materials (BOM)

Standards & Compliance: ASME Boiler and Pressure Vessel Code, TEMA Standards, Design for Six Sigma (DFSS), Critical to Quality (CTQ)

Industrial Engineering & Operations: Lean Manufacturing, Value Stream Mapping, 5S, Kaizen, Standard Work, Six Sigma (DMAIC), Continuous Improvement, Process Optimization, Root Cause Analysis, OEE & KPI Measurement, Capacity Analysis, Throughput & Cycle Time Optimization

Analytics & Statistics: Statistical Process Control (SPC), Regression Analysis, Design of Experiments (DOE), Applied Statistics, Forecasting, Predictive Analytics

Software & Tools: Python (Pandas, NumPy, Scikit-learn), SQL, Power BI, Microsoft Excel (Advanced), Minitab, MATLAB, R, Git/GitHub

Languages: English (Fluent), Italian (Native)

CERTIFICATIONS

- **Six Sigma Green Belt Specialization**
- **Operations Research Specialization**
- **IBM Data Science Professional Certificate**

SELECTED PROJECTS

Demand Forecasting and Inventory Optimization Dashboard

- Developed forecasting and optimization models using Python to support operations and inventory planning decisions
- Demonstrated industrial engineering approach to capacity planning, inventory management, and performance trade-off analysis