Yannick Iniatius Mavita Gata

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SUMMARY

Manufacturing Engineering graduate student with hands-on experience in **improving process engineering, designing CAD models, elevating quality through inspection,** and maintaining **continuity** and **stability** through **variation reduction** within **manufacturing systems.** My background includes in **2D nanomaterials research**, **non-destructive testing (NDT)**, and **digital manufacturing tools like ERP, MES, HMI,** and **PLC**. Proven ability to support manufacturing operations through **statistical control, data analysis,** and **CAD SolidWorks designs** for manufacturability**,** materials design**,** and biomedical engineering. Seeking a full-time Manufacturing Engineer role from **intermediate** to **advanced positions.**

EDUCATION

M.S. Manufacturing Engineering December 2025
Arizona State University, Tempe, AZ
Relevant Coursework: *Quality Control Manufacturing (**SPC, Cp/Cpk, Gage R&R**)*, *Engineering Computing with Python, Manufacturing Systems & Process Analysis*
Note: Applied **Gage R&R** in measurement experiments to evaluate **reproducibility** and **repeatability** using Excel

M.S. Materials Design and Innovation December 2022
SUNY The University at Buffalo, Buffalo, NY
Relevant Coursework: *Multivariate Statistics*, *Material Informatics, Data-Driven Materials Design*

B.S. Biomedical Engineering May 2021
SUNY The University at Buffalo, Buffalo, NY
Relevant Coursework: *Biomaterials*, *Statics (mechanics), Honors Calculus III*

TECHNICAL SKILLS AND CERTIFICATIONS

Manufacturing & Engineering: CNC process understanding (milling), Statistical Quality Control, Kaizen concepts, CAD/CAM & Design for Manufacturability (DFM), GD&T interpretation (basic to intermediate), DMAIC
Manufacturing & Data Analysis: CIVAC (inspection & quality data analysis), Python (Flask dashboards, Jupyter Notebook), MATLAB (Advanced), Excel (Advanced), Minitab (Advanced), data visualization, process analysis, Ignition (Basic)
Modeling & CAD: SolidWorks (5+ years), AutoCAD, Digital Twin (Level 1)
Quality & Inspection: Non-destructive Testing (NDT/NDE) – coursework & applied analysis, Root Cause Analysis, Statistical Process Control (SPC), nanomaterial laboratory synthesis, Lab safety and compliance, Quality Control, Process Optimization
Certifications: Six Sigma Yellow Belt (2025)
Languages: French (Native), Spanish (Professional proficiency)

PROFESSIONAL EXPERIENCE

University at Buffalo (SUNY) — Research Contributor / Co-Author Sept 2021 – Dec 2022
Buffalo, NY

- Co-authored in **machine learning** regression **models** (Linear Regression) built to predict material hardness based on chemical composition and intrinsic material characterization (showing 83% improvement up).
- Processed data and applied **statistical analysis** to improve experimental **repeatability.**
- Performed laboratory materials synthesis (two-dimensional nanomaterials preparation) including **etching, delamination, chemical vapor deposition**, and applied controlled synthesis **process improvement.**
- Communicated technical findings through **written reports** and presentations across research teams.
- Applied **statistical analysis and multivariate stats methods** to identify process trends and improvement opportunities.
- Co-authored in multiple scientific publications in materials science design and innovation.

University at Buffalo (SUNY) — Research Aide Feb 2022 – Dec 2022
Buffalo, NY

- Operated and maintained laboratory equipment: e.g. centrifuges and sonicators under strict, safe, and quality regulations
- Handled harmful chemicals such as HCl and DMSO while upholding laboratory standards and safety regulations.
- Implementing guidelines, assisted with data collection, documentation, and quality validation for experimental processes

PROJECTS

CNC Manufacturing Digital Twin & Six Sigma Process Improvement Personal / Academic Project — 2025

- Designed and built a full CNC machine concept from scratch using SolidWorks, including motion studies and mechanical structure.
- Applied **design-for-manufacturability principles** and virtual prototyping to evaluate mechanical feasibility.
- Applied Six Sigma and PDCA principles to help:
    - Identify sources where process deviates (potential **defects** and **root causes**).
    - Propose countermeasures to create stability for cycling time and improve quality.
- Developed a **Flask dashboard** for **data** and **statistical analysis** using **Python/Visual Studio Code** (VSC) for:
    - Process improvement analysis in manufacturing statistical methods (**Gauge R&R**, **Cp/Cpk**, **Control charts**).
    - Decision and prediction making using Python libraries: **Pandas**, **NumPy**, **Plotly**, **Scikit-learn.**
    - Evaluating machine Learning (ML) models: **Linear Regression**, **SVM**, **Neural Networks**, **KNN**, **Clustering.**
- Applied motion concepts in CAD systems to inspect machine behavior and identify improvement opportunities.
- Designed project as an early-stage **digital twin (Level 1)** through simulation serving as performance analysis.

SolarSPELL ― TinyML for Offline Soil Sensing: Internet of Things ― **ASU Class Project** Spring 2025
Arizona State University

- Developed a **TinyML model** using Python/VSC to analyze soil condition through collected data from Arduino sensors.
- Applied **statistical quality methods** and **neural networks** to improve prediction trust (75%-85% reliability).

SolidWorks & AutoCAD Design Projects ― Academic & Personal Spring 2025

- Designed a digital **prosthetic hand** prototype emphasizing mechanical aesthetics and functions.
- Built CAD models and assembled parts on SolidWorks for motion simulation and manufacturing validation.
- Designed a virtual COVID-19 mask for inspection focusing on sustainability, improvement, and production.