Yannick Iniatius Mavita Gata

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SUMMARY

Manufacturing Engineering graduate student with strong hands-on experience in **process optimization, CAD modeling, quality inspection, and data-driven process improvement**. My specialty lies in applying process optimization using six sigma methodologies to maintain continuity, stability, and reduce variation in complex manufacturing systems. My background includes **intense 2D nanomaterials research**, **non-destructive testing (NDT)**, **manufacturing with biomedical devices**, and **some digital manufacturing tools**. Proven ability to support manufacturing operations through **statistical control, data analysis, and CAD designs for manufacturability 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 repeated measurement experiments to evaluate **reproducibility** and **repeatability** using Excel

M.S. Materials Design and Innovation December 2022
State University of New York 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), Six Sigma Yellow Belt, Statistical Quality Control, Kaizen concepts, CAD/CAM & Design for Manufacturability (DFM), GD&T interpretation (basic to intermediate)
Manufacturing & Data Analysis: CIVAC (inspection & quality data analysis), Python (Flask dashboards, Jupyter Notebook), MATLAB, RStudio, Excel
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), Laboratory nanomaterial synthesis, Lab safety and compliance, quality validation, quality control
Certifications: Six Sigma Yellow Belt (2025), Machine Learning with Python (2023) - Coursera

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
- Processed data for cleaning 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 techniques** 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 safety and quality regulations
- Handled harmful chemicals such as HCl and DMSO while upholding laboratory standards and safety requirements
- 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 methodology to:
    - Identify sources of process **variation** (potential **defects** and **root causes**)
    - Propose countermeasures for cycle time **stability** and quality improvement
- Developed a **Flask data analysis dashboard** for:
    - Process improvement and statistical analysis of manufacturing data (**Gauge R&R**, **Cp/Cpk**, **Control charts**)
    - Predictions and visualization performance using 2D and 3D plots
    - Evaluation of machine Learning models (**Linear Regression**, **SVM**, **Neural Networks**, **KNN**, **Clustering**)
- Applied motion studies and CAD validation to simulate machine behavior and identify improvement opportunities.
- Designed project as an early-stage **digital twin (Level 1)** through simulation 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 to analyze soil condition data collected via Arduino sensors.
- Applied **statistical quality methods** and **neural networks** to improve prediction reliability

SolidWorks & AutoCAD Design Projects ─ Academic & Personal Spring 2025

- Designed a **virtual prosthetic hand** emphasizing mechanical functionality and aesthetics
- Built CAD models suitable for motion simulation and manufacturing validation
- Designed and 3D-printed a COVID-19 mask, focusing on sustainability, improvement, and manufacturability