Nhan (Steve) Nguyen

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PROFILE SUMMARY

Mechanical Engineering graduate with 1.5 years of experience in manufacturing operations and R&D software development, specializing in reliability engineering, process improvement, and engineering tools using Python and MATLAB.

TECHNICAL SKILLS

Programming & Simulation:	MATLAB, Python, Simulink, Finite Element Analysis (FEA)
Design & CAD:	SolidWorks, CNC Trajectory Modeling, Carsim, MSC ADAMS, GD&T
Process & Manufacturing:	Lean Manufacturing, 5S/Kaizen, Continuous Improvement, Root Cause Analysis, Reliability Engineering
Dev & Tools:	DevOps, Jira, PyCharm, VS Code, Jenkins, CI/CD, Microsoft Office

WORK EXPERIENCE

Manufacturing Engineer   Sep. 2024 – Apr. 2025
Procter & Gamble

- Standardized packaging equipment maintenance across 7 production lines, saving $70,000 annually.
- Developed and maintained 2,200+ equipment standards, increasing MTBF by 50%.
- Standardized alarm configurations for 28 machines (3,500+ parameters), boosting line efficiency by 15%.

Software Tool Developer   Aug. 2022 – Aug. 2023
Bosch R&D Automotive

- Enhanced MATLAB/Python simulation tools for electric motor design, optimizing fatigue analysis workflows.
- Increased automated test coverage from 40% to 90% via MATLAB testing scripts.
- Applied DevOps and CI/CD to integrate new features while preserving backward compatibility.

ENGINEER PROJECTS

Vehicle Dynamics System | *MATLAB, Simulink, Carsim*   Apr. 2024 – Aug. 2024

- Designed a PID-based path tracking controller for an autonomous race car using a 2-DOF linear vehicle dynamics model, incorporating lateral error and yaw dynamics.
- Optimized PID gains using a Genetic Algorithm, reducing manual tuning effort and improving tracking performance across multiple vehicle speeds.
- Validated controller performance through MATLAB/Simulink and CarSim co-simulation on circular paths and the Monza race track, identifying stability limits at high-speed conditions.

Precision Control System | *MATLAB, Simulink*   Aug. 2023 – Dec. 2023

- Developed multi-axis trajectory generator for a virtual CNC system, using cubic splines and jerk-limited profiling.
- Modeled feed drive dynamics via Least Squares and Kalman filter friction modeling.
- Designed PID + feedforward controllers with loop-shaping to enhance tracking performance.

Product Designer in a CAE Environment | *MATLAB, SolidWorks*   Aug. 2021 – Jun. 2022

- Created dimensionally accurate 3D models and GD&T drawings of a scissor jack.
- Performed FEA to determine factor of safety.
- Redesigned a component that improved the load capacity of the scissor jack by 10%.

EDUCATION

University of Waterloo   Waterloo, ON
Master of Engineering in Mechanical and Mechatronics Engineering — GPA: 84.75   *Aug. 2023 – Aug. 2025*

University at Buffalo   Buffalo, NY
Bachelor of Science in Mechanical Engineering, Magna Cum Laude — GPA: 3.55   *Aug. 2018 – Jun. 2022*