

Samuel Schroeder

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EDUCATION

Northern Illinois University, Dekalb, IL — GPA: 3.2

RELEVANT COURSEWORK

- MEE 270 – Engineering Graphics
- MEE 210/211 – Engineering Mechanics I/II
- MEE 212 – Mechanics of Materials
- PHYS 253,273 – Fundamental Physics I, Electrodynamics
- MATH 229/230,336 – Calculus I/II, Differential Equations
- CSCI 240 – Computer Programming in C++

EXPERIENCE

Automotive Engine Specialties, Elk Grove Village, IL— Machinist

JUNE 2019 - PRESENT

- Direct automation operations
- Make products in CAD, program product toolpaths in CAM
- Operate and set up machinery: CNC Vertical Milling Center, manual mill, manual lathe, line bore/hone, crankshaft balancer
- Assemble engines in short, long, and completed configurations
- Represented USA in SEMA Middle East Abu Dhabi Engine Building Competition

EDM Intelligent Solutions, Bartlet, IL— Manufacturing Engineering Intern

JUNE 2024 - AUGUST 2024

- Work in an ITAR and AS9100D controlled environment
- Operate electrical discharge machines
- Perform routine machine maintenance and repairs
- Operate Alicona InfiniteFocus G6 metrology system
- Assemble MVi5 Metrology Center
- Perform quality control for incoming and outgoing parts
- Manage company wide digital file organization

PROJECTS

Optimizing Intake Manifold Geometry [...]: A CFD-Driven Analysis — Huskie Motorsports and University Research

This studies the relationship between intake manifold geometry and the performance of a simulated engine. The relationships were procedurally elucidated through parametric CFD simulations. This study also investigates design parameter independence within the intake manifold.

This research was presented at NIU's CURE research conference.

Busy Bee Detergent — High School Capstone Engineering Project

Busy Bee Detergent aims to reduce plastic waste by introducing a system where consumers can refill a detergent container at a local grocery store with an automated dispensing machine.

SKILLS

- Woodworking
- Metalworking
- General Component Assembly
- Organized Workspace
- Leadership – Leading 25+ individuals through multiple research projects in Huskie Motorsports.

Software

- Solidworks (CAD,CFD)
- Fusion 360 (CAD, CAM, FEA)
- Autodesk CFD
- Trimble SketchUp
- Ultimaker Cura / Bambu Studio
- WordPress
- Microsoft Office 365

Languages: C++, Python

Equipment

- FANUC Certified Robot Operator with ROBOGUIDE
- CNC Vertical Milling Center
- 3D Printer
- Manual Lathe
- Manual Vertical Mill
- Line Bore/Hone
- Vertical Hone
- Crankshaft Balancer
- Valve Guide and Seat Machine
- Die Grinder

AWARDS

Northern Illinois University Presidential Scholarship

Society of Manufacturing Engineers Education Foundation

E. Wayne Kay Scholarship & Bright minds Mentorship Program

Yorkville High School Academic Excellence Award

Illinois State Scholar

National Honor Society

Science National Honor Society

National Technical Honor Society

Northern Illinois University Honors