

Sebastian B. Graper

sebastianbgraper@gmail.com

www.sebastiangraper.com

www.linkedin.com/in/sebastiangraper

EDUCATION

University of Delaware

Honors Bachelor of Science in Mechanical Engineering

Minors in Economics and Integrated Design

Mechanical FE Certification

December 2022

GPA: 3.96; Magna Cum Laude; Dean's List: Fall 2019 – Fall 2022

Newark, DE

May 2026

RELEVANT INDUSTRY KNOWLEDGE

STATICS, DYNAMICS

MECHANICS OF SOLIDS

MACHINE DESIGN

MATERIALS ENGINEERING

SUSTAINABLE MANUFACTURING

INDUSTRIAL DESIGN

FLUID DYNAMICS

THERMODYNAMICS

HEAT TRANSFER

SKILLS

CATIA V5

SOLIDWORKS

Autodesk Fusion

Autodesk Inventor

Drafting/GD&T

Python/MATLAB

PTC Windchill

FloEFD

GPTs

LabVIEW

3D Printing

CNC Machining

Laser Cutting

Power Tools

Prototyping/Modelmaking

Material/Stock Selection

Project Planning

Technical Documentation

Presentations/Manuals

Professional Relations

EMPLOYMENT

Mechanical Engineer

Stanley Black & Decker Power Tools Group + Technology - ETG

Towson, MD

July 2023 – July 2025

- Create **iterative, functional prototypes** of novel products using **CATIA modeling, FloEFD simulation, and hand/power tools**
- Lead and participate in **design reviews**, contributing ideas and recording feedback as actionable changes
- Organize and control project CAD and documentation through **Sharepoint and Windchill PLM software**
- Maintain **project spreadsheets** to track progress on tasks, status of ordered parts, and overall project health
- Conduct **teardowns** of competing products and read manuals to **reverse engineer** mechanisms of operation
- **Troubleshoot** issues in electrical and mechanical function through **root cause analysis** and **design of experiments**
- Document promising ideas in **disclosures** for use by legal team to pursue **patents and IP**
- Manage **several projects concurrently** while **teaching new hires** and learning **new skills/software**

PROJECTS

Novel Motor Project

Stanley Black and Decker

Towson, MD

April 2024 – July 2025

- Designed **structural parts, thermal management, and electrical enclosures/routing** for motor project
- Leveraged **master/skeleton modeling** techniques to **accelerate design iteration** and enable **concurrent development**
- **Improved airflow performance by 36%** via insights gained from **FloEFD simulations and analyses**
- Implemented **DFMA principles** including locating features for assembly alignment, minimal/standard fasteners, etc.
- Optimized part designs for manufacture by **CNC machining, injection molding, sheet metal forming, and SLS printing**
- Created comprehensive **cost estimates** for varied scales of production and verified substitute parts to **meet target cost**

Convention Costume – Wearable Armor Suit and Accessories

Personal Project

West Chester, PA

October 2025 – January 2026

- Modified and created 3D models in **Fusion** and **Prusaslicer** to achieve custom fit to body and additional features
- Designed, produced, and operated custom **vacuum former machines** to create helmet visors and complex plastic forms
- Produced 25+ painted printed parts, soft goods, body harness and accessories through **3D printing, sewing, CNC plotter**

Senior Design Project – Polymer Composite Creep Testing Machine

Sponsored by Celanese, formerly DuPont Mobility and Materials

Newark, DE

August – December 2022

- Redesigned creep testing machines to **improve reliability** through use of dead weight force amplification
- Coded **data acquisition** program using **LabVIEW** to record sensor data based on operator-selected strain threshold
- Designed and machined custom sensor mounts for first-generation **functional prototype** using **SolidWorks** and **CNC mill**
- Produced a comprehensive **user manual** to guide system assembly, sensor setup, operation, and machine maintenance