

# MATHIS VIGNEAU

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## SUMMARY

Mechanical engineering undergrad at Cornell University with hands-on experience in mechanical system design and cost estimation, leveraging thermodynamics to optimize efficiency. Skilled in CAD/3D modeling (SolidWorks, AutoCAD, Fusion 360), machining, data analysis and Lean improvement, with a strong interest in process optimization and sustainable development. Proven ability to conceptualize and prototype solutions collaboratively in cross-functional teams. Eager to contribute innovative ideas and technical expertise to impactful manufacturing projects.

## EDUCATION

### Cornell University – College of Engineering

Aug 2023 - May 2027

*Bachelor of Science, Mechanical Engineering*

*Cornell university*

- **GPA:** 2.8
- **Coursework:** Engineering Statics, Thermodynamics, Dynamics, Fluid Mechanics, Mechanical Engineering of Materials, Mechanical Design, System Dynamics (in progress), Physics I–II, Introduction to CAD (University of Toronto), Machine Learning & AI (George Mason University), Big Data Applications (Columbia University)

## WORK EXPERIENCE

### Binnies Hong Kong

Jun 2025 - Present

*Incoming Mechanical Engineering Intern*

- Assisted with product design and mechanical system cost estimation for pumping systems, leveraging thermodynamics principles to improve efficiency
- Supported project scheduling and planning for conservation-focused building systems, applying lean continuous improvement and sustainable development practices to optimize resource use

### TechConnect, Cornell Store

Jan 2024 - Present

*Salesperson / Technical Support*

- Advised students and faculty on engineering tools and manufacturing engineering principles, enhancing their understanding and usage of technology
- Provided hands-on troubleshooting for laptops, tablets, and electronic accessories, resolving technical issues efficiently and improving customer satisfaction

### Premiere+

Nov 2021 - Dec 2021

*Performer*

*Disney World (FL)*

- Performed in Go Iguana Out of Time, enhancing audience engagement and team coordination.

## PROJECT EXPERIENCE

### Cornell ChemE Car Project Team – Mechanical Subteam Member

Feb 2024 - Present

#### Cornell ChemE Car Project Team

*Cornell University*

- Designed and prototyped structural components in CAD, improving reliability and manufacturability.
- Collaborated with cross-disciplinary teams to optimize performance, sustainability, and safety.
- Assisted in fabrication and assembly of a chemically powered autonomous vehicle.

### Why Engineering Matters (Published Oct 2022, Amazon)

Oct 2022

**Author**

- Wrote and published a book on the societal and environmental impact of engineering innovation.
- Researched sustainable design principles and global engineering applications.

## TECHNICAL SKILLS

- **Design & CAD:** SolidWorks, AutoCAD, Fusion 360, Product Design
- **Engineering & Process Improvement:** Thermodynamics & Energy Systems, Structural Analysis, Rapid Prototyping, Manufacturing Engineering, Lean/Continuous Improvement
- **Programming & Analysis:** MATLAB
- **Languages:** English, French, Spanish, Dutch
- **Interests:** Engineering Innovation, Sustainable Development, Robotics, Snowboarding, Video Editing

## LEADERSHIP & INVOLVEMENT

### Cru

Aug 2024 - Present

*Bible Study Leader*

### Cornell Shakespeare

Sep 2024 - Present

*Actor*