

# DAVID MOORE

## ASPIRING STRUCTURAL ENGINEER

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unmoore.com

### EXECUTIVE SUMMARY

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Engineering and Management Graduate with a year of work experience in designing structural systems for assembly, residential and business occupancies. Approaches design challenges with enthusiasm, prudent planning and understanding of deliverables to ensure an efficient and meaningful process. Engages with colleagues and communicates with multi-disciplinary stakeholders to achieve client's vision.

### EDUCATION

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McMaster University  
Graduated Nov 2021

**Bachelor of Engineering & Management (16 Month Co-op)**  
Summa Cum Laude in Civil Engineering & Management program  
Cumulative GPA of 11.8 on McMaster's 12-point scale (3.9 on 4-point scale)

Nanyang Tech University  
2018

**International Student Exchange**  
Recipient of Travel Scholarship to study at NTU in Singapore

### PROFESSIONAL EXPERIENCE

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**Blackwell Structural Engineers**    **Structural Engineering Assistant**  
May 2019- Aug 2019

Mass Timber Sports Barn Design

- Created lateral and gravity load plan for structure.
- Designed wood framing system including glulam beams, purlins, girts, accommodating specified SIP span.
- Created a design aid in Excel for Tudor arch design.
- Designed steel moment frame in RISA and verified analysis with hand calculations.
- Designed reinforced concrete strip and pad footing.

Atrium Steel and Timber Stairs  
Design and Vibration Analysis

- Designed tread, stringer, steel connection of tread to stringer.
- Carried out vibration serviceability analysis for treads and stringers. Included creating a SAP2000 model for finite element and steady state analysis.

Mass Timber Framing Analysis

- Identified the most efficient bay sizes for six different timber framing systems.
- Completed by creating design aid to give sizes of timber members given aspect ratio of bays.

Underpinning Design

- Conducted load rundown of three storey existing structure.
- Designed underpinning for walls and columns when required.

Review of Shop Drawings

- Verified lateral and gravity loads and ensured adequate diaphragm fastening specifications per CANAM catalog.
- Reviewed rebar shop drawings for concrete walls, slabs.
- Reviewed foundation shop drawings.

AHU Steel Frame Design

- Designed steel frame for large AHU in RISA with cross bracing, working platform and framing for openings in platform.

Verifying Previous Firm's Design

- Checked previous consulting engineer's beam sizes, earthquake loads and footing design and proposed appropriate changes.

ETABS to S-Concrete

- Assisted in fixing design aid in VBA to convert ETABS concrete column and shear wall output for S-Concrete input.
- Used design aid to design concrete columns in S-Concrete given ETABS output.

**Toronto District School Board    Structural Engineering Assistant**

May 2018 – Aug 2018  
May 2017 – Aug 2017

- Designed steel frame supports for new roof hatches, guards for awning windows, masonry walls, roof perimeter guardrails.
- Specified beam replacement with shoring specifications for slab.
- Prepared drawings using AutoCAD and Revit. Projects include interior and exterior steel stairs, wall replacement.
- Reviewed as-built drawings to identify design issues on site.

**Toronto District School Board    Environmental Engineering Assistant**

May 2016 – Aug 2016

- Reviewed Designated Substance Surveys for over 600 sites for a GIS management system.

**RECENT PROJECTS****Undergraduate Thesis and CSCE conference paper    2020**

- Compared the embodied environmental impacts of a five-storey building in Toronto for three alternative design scenarios: reinforced concrete, steel, and mass timber
- Design included different vertical and lateral load resisting systems, floor systems and footings
- A cradle-to-grave life cycle analysis (LCA) was done in Athena's Impact Estimator for each scenario and results were organized by phase in product life as well as structural assembly
- Accepted for CSCE 2020 conference. Full thesis and conference paper [unmoore.com/portfolio#x](http://unmoore.com/portfolio#x)

**Capstone: Vertical Farm Design    2020**

- Design of a 4 storey steel-framed vertical farm and attached 2 storey marketplace.
- Conducted hand calculations for design in accordance with CSA S16-14. Design included connections, beams, columns, chevron bracing, slab, connections
- Modeled building in SAP2000 to verify hand calculations. Available at [unmoore.com/portfolio#x](http://unmoore.com/portfolio#x)

**Philippines Beach House Architectural Design    2018**

- Independently designed a cost-effective beach house in Toledo, Philippines. Revit model, CAD drawings and photos of finished structure are available at [unmoore.com/portfolio#1](http://unmoore.com/portfolio#1)

**3D Design of Portable House    2018**

- Structural and Architectural design and game of a conceptualized portable home with SIP walls and roof. Made in Revit and 3DS Max for walkthrough. [unmoore.com/portfolio#2](http://unmoore.com/portfolio#2)

**AWARDS**

- **Ontario Professional Engineer Scholarship:** Acknowledging leaders in engineering affairs.
- **Simon McNally Scholarship:** Recognizing practical civil engineering experience and background.
- **Ronald William Merkel Engineering Scholarship:** Recognizing international development project.
- **University Prize for Special Achievement:** Acknowledging my Philippines beach house project.
- **The Hatch Academic Engineering Scholarship:** Awarded for a high sessional average of 11.9.
- **H.L. Hooker Scholarship:** Awarded for attaining an 11.9 GPA.
- **McMaster Honour Award Scholarship:** Awarded for a high sessional average.
- **First at McGill RoboHacks competition:** Coded and made a gesture-controlled model car.

**EXTRACURRICULAR ACTIVITIES**

**LEED GA Certification    2018 – 2020**

**Third Degree Black Belt    2010**

**McMaster Civil Engineer Ambassador:** Representing the Civil Department    **2018 – 2019**

**Civil Clubs:** Seismic Design Team, Steel Bridge Design, Concrete Toboggan    **2018 – 2019**

**Hackathons:** HackHarvard, McGill Robohacks, ConUHacks    **2016 – 2018**