

# SAMEH KHAN

I'm a projects guy.

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## EDUCATION

**Western University**, London Ontario **2019**  
*Candidate for Bachelor of Engineering Science, Mechanical Engineering*

## CERTIFICATIONS

- Leader Effectiveness Training **2015**  
*Gordon Training International*
- Certified SolidWorks Associate **2013**  
*Dassault Systèmes*

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## PROFESSIONAL EXPERIENCE

**Lecturer's Assistant** | *Richard Ivey School of Business* **2018 – Present**

- Proctored exams of over 60 students. Marked exams and reports to a moderated rubric, and provided student feedback

**Undergraduate Researcher** | *Faculty of Medical Biophysics, Western University* **2017 – Present**

- Assisted with the development of a blood flow regulation model (developed using MATLAB), allowing for more accurate prediction of oxygen distribution in the surrounding tissue

**Special Projects Engineering Intern** | *Diamond Aircraft Industries Canada* **2016 – 2017**

- As a member of a UAV design team, curated mass properties database to supplement CG calculations, and pushed proposed weight savings at weekly meetings
- Worked closely with design engineers to track aircraft weights, resulting in more accurate mass prediction for composite parts
- Deployed CATIA scripts to accelerate engineering workflow, simultaneously improving data integrity in customer deliverables
- Designed and tested a new drawing tracking system leading to reduced data error in reporting metrics and better coordination between departments

**Website & Graphics Designer** | *Freelance* **2010 – 2014**

- Delivered multiple full-build commissions for front-end, templates and web asset design
- Extensive use of Adobe Creative Suite, with focus on User Interface design

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## FORMULA SAE EXPERIENCE

**Aerodynamicist** | *Western Formula Racing* **2018 – Present**

- As part of the FSAE series, designed and built an aerodynamically optimised vehicle undertray, decreasing average vehicle laptime by 0.5 seconds
- Pioneered parametric aerodynamic design development within the team
- Performed wind tunnel validation of CFD mesh, and performed structural testing of composite coupons

**President** **2015 – 2016**

- Led a group of over 50 university students in the design, marketing and racing of an F1-style car
- Developed a consumer-focused design ethos, and made organisation-wide technical decisions
- Led the team to a 1st place position in the first race of 2016, solidifying a world ranking of 9th/518

**Lead Human Factors Designer** **2014 – 2015**

- Spearheaded the design of a driver packaging and cockpit controls system to optimize vehicle performance
- Implemented anthropometric research and usage of biometric sensors into cockpit design and manufacture, leading to fatigue reduction, improved driver performance on track, and the potential for long-term data analysis of effects of driver training
- Trained a dedicated team for Human Factors, with students from various health sciences, to assist with engineering design
- Ranked the most ergonomic system by industry professionals at competitions across the US, Germany and Canada

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## SKILLS

**CAD Modelling:** CATIA V5 (400+ hrs), SolidWorks (1000+ hrs)  
**Analysis:** STAR-CCM+, ABAQUS FEA  
**Coding:** MATLAB, C++, C, VBA  
**Creative:** Adobe Photoshop, Illustrator, HTML, CSS  
**Workshop:** Carbon-Fibre Composite Infusion - (VARTM)

## LANGUAGES

**Native:** English, Urdu **Working:** French

### French Immersion Programs:

- Baie-St-Paul, Quebec **2018**
- Trois Pistoles, Quebec **2014**

## SELECTED PROJECTS

### Personal

- Wheelchair for Rehabilitative Motion **(2013)**  
*[Biomechanics]*
- Solar-Charging Phone Cases **(2012)**  
*[Circuit Design]*
- Composite Slab Seating **(2011)**  
*[Anthropometrics, Furniture Design, UX]*

### Academic

- Obstacle Detection System for Rollators **(2018)**  
*[Arduino, Sensor Integration]*
- Semi-Autonomous Recovery Robot Prototype **(2017)**  
*[PIC Micro, Sensor Integration, Structural]*
- Gearbox for Lightweight Electric Vehicle **(2016)**  
*[Structural]*

### Western Formula Racing

- Aerodynamically Optimized Undertray **(2018)**  
*[Fluid Dynamics, Composites, STAR CCM+]*
- Modular Driver Padding System for FSAE Car **(2016)**  
*[Anthropometrics, UX]*
- Ergonomic Carbon-fibre Seat for FSAE Car **(2015)**  
*[Anthropometrics, Composites, UX]*

### Research

- Tension Model of Wrapped Ligaments **(2018)**  
*[Biomechanics, MATLAB, FEA]*
- Flow Regulation in Microvascular Networks **(2018)**  
*[Fluid Dynamics, MATLAB]*
- Effect on Tension in the Radial Collateral Ligament **(2017)**  
*[Biomechanics, MATLAB]*

## EXTRACURRICULAR & VOLUNTEER

### Organization

Canadian Society of Mechanical Engineers (CSME)  
Mechanical and Materials Engineering Society  
UWO Improvisation Club  
Salsa, Swing Dance  
London Public Library

### Role

*Vice-President*  
*4th Year Representative*  
*Member*  
*Member*  
*ESL Teacher & Children's Volunteer*

## LINKS

**Personal Website:** [samehkh.com](http://samehkh.com)  
**LinkedIn Profile:** [linkedin.com/in/samehkh](https://www.linkedin.com/in/samehkh)