

# Omar Kamal

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E.I.T Materials Engineer with Software Development Expertise

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Eager to contribute as a Materials Engineer, I bring a unique combination of materials science knowledge and software development proficiency. Particularly interested in the convergence of Materials Science, Biomedicine, and Cell Biology, I am committed to harnessing this synergy to innovate and solve complex challenges in the realm of biomaterials.

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## Education

**BSc, Materials Engineering (2017 - 2023);** University of Alberta (Edmonton, AB)

- Program Electives: Biochemistry, Molecular Cell Biology, Introduction to Biomaterials

## Skills

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### Materials Science and Technical Skills

- Foundational knowledge in Biomaterials
- Proficient in various research methods for materials selection
- Thorough understanding of materials processing, characterization, and porosity measurement methods
- Experienced in data processing, analysis, and modeling for various theoretical foundations

### Programming Languages

- HTML/CSS
- Javascript/Typescript
- Go/Golang
- C#
- Rust
- Python
- MATLAB

### Spoken Languages

- English (Fluent)
- Urdu (Fluent)
- German (Basic)

## Soft Skills

- Strong team leadership and collaboration abilities
- Effective presentation and public speaking across technical levels
- Rapid adaptability to new challenges and environments
- Proven leadership with large teams

## Experience

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### Corsace (2015 - Present)

General Organizer + Lead Developer

<http://corsace.io/>

A non-profit organization creating various entertainment events and content online.

- Successfully led a team of **100+ volunteers**, resulting in increased event frequency and **5000+ viewer** streams
- Created infrastructure and services to **automate processes/work** and **increase productivity** for the team
- **Innovated solutions for novel problems**, consistently elevating project quality and outreach
- **Effectively communicated** with various stakeholders to provide top-of-the-line service

### Shifa Medical Clinic (2014 - 2017)

Technical Assistant

<https://www.shifamedicalclinic.com/>

A local clinic in Edmonton, Alberta consisting of various doctors, nurses, and medical officers.

- Maintained clinic patient record database, and **learnt skills in upkeeping** and organization/data management.
- **Communicated complex technical solutions in various levels**, fostering improved operational workflows
- Experience in **following established protocols** by ensuring documents are handled following PIPEDA terms.

## Research Projects

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### Characterizing QT 450-10 Ductile Iron; Optimizing Binder Jet Printing + Sintering (2023)

- Effectively applied various skills in a small group to obtain various analysis results to measure porosity
  - Experience with [image data processing](#), as well as **gas/liquid pycnometers** for **porosity calculation**
  - Communicated with professors and staff members alike to effectively discuss better measures

- Gained **experience on research methods** and key points to look for regarding material characterization and properties

## Process Design for Wear Resistant Excavator Blade Teeth with Ni-60 wt% Tungsten Carbide + 17-4 Precipitate Hardened Stainless Steel (2022)

- Managed with required deliverables and **adapt to accommodations** and limits
- Obtained **thorough analysis of energy and space requirements** for each process part
- Underwent thorough **cost analysis and managed budget** as necessary
- Developed a sophisticated and thorough process containing **50+ steps**
- Gained extensive experience with various common Materials Science tools such as **ThermoCalc**

## Volunteering

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### Difficulty Calculation Development (2017 - 2019)

<https://osu.ppy.sh>

Research and development on various methods to improve the game's difficulty calculation.

- Learnt and developed with popular languages and libraries to help **improve and balance gameplay** for **30 million+ users**
- Incorporated and **implemented principles from theoretical models** such as Fitts' Law into difficulty calculation, providing further experience in **using theory for practical applications**
- Ensured results were optimal by **effectively communicating with key stakeholders** in the project and community

### Duggan Soccer Organization (2010 - Present)

<https://www.mydcl.ca/duggan-soccer/>

Volunteering at a community centre for their provided soccer program.

- Worked with various community members and **aided easing the registration process** for their children into community soccer
- Aided in **logistics for 275+ teams**, playing a pivotal role in organizing and managing the annual Duggan Soccer Tournament
- Helped with **automating and streamlining HR management processes** to facilitate more efficient payment transfers for referees

## Notes

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My diverse skill set, combining Materials Engineering with Software Development, allows me to approach problems with a unique perspective. This blend has proven instrumental in data analysis, simulations, and innovative solutions for complex engineering problems.