

Mohammad Amin Zakershobeiri

MASc in Mechanical Engineering

FEM / FEA (Solids: Structural, Thermal, Dynamics), CAD (3D Design & Tech. Drafting), CFD (Fluids), US Patent, Programming, Multiphysics Simulations, Modeling, & Optimization. Eligible for EIT registration + 3 Internship Experiences in Mechanical & Reliability Engineering.



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QUALIFICATIONS

- Master's in Mechanical Engineering, eligible for EIT registration, with 3 engineering internship experiences (**CAD/CAE**) and a **US patent**, with a solid grasp of theoretical and computational *Solid Mechanics, Fluid Mechanics, and Heat Transfer*.
- Highly experienced in **FEA & CFD Multiphysics Simulations** with **ANSYS** (*stress analysis, elasticity, large deformations, plasticity, random & harmonic vibration, response spectrum, modal, thermal, creep, fatigue, shock, and crack propagation analysis, composites, Fluid-Structure Interactions, Two-Phase Flow, and Turbulence and Optimization with Workbench*).
- Experienced in **CAD & complex 3D Modeling**, preparing manufacturing **Drawings (GD&T⁺)**, **BOM** and **3D-printed** parts, with a strong spatial visualization ability and attention to details.
- Experienced in **Electronics Reliability** (*thermal management, solder/PTH creep-fatigue, shock, vibration*) through **ANSYS Mechanical & Sherlock**.
- Independent & critical thinking / strong verbal & written language skills / Fluent in English, intermediate German fluency (B1) / professional presentation, documentation, and communication

RECENT WORK EXPERIENCE

- **Reliability Engineering Intern at Daanaa Resolution, Inc.** [Since June 2022]
Focusing on understanding and analyzing thermo-mechanical modes of PCB and IC failure (*solder creep-fatigue, thermal simulation, vibration, & shock*) and providing insight into better, alternate designs through multiphysics simulations and possible 'mitigation' strategies, using **ANSYS Mechanical** and **Sherlock**. *Daanaa is a designated BC startup.*
- **Graduate Research Assistant at The University of British Columbia (UBC)** [2019–2021]
Enhancement and optimization of *Coanda-Effect Screens* (resulting in a *patent*), and the absorption mechanism and capillarity in paper towels (resulting in *publications*) using **ANSYS Fluent**. Also worked on particle methods and molecular dynamics and *Fluid-Structure Interactions*. Designing a Lab-in-a-Box for undergraduate students to test plate buckling at home, due to school closures in the wake of COVID-19 pandemic, using SolidWorks & 3D-printing.
- **Mechanical Engineering CAD/CAE Intern at Farineh Machine,** [Summer 2017]
material handling & sulfur granulation & material processing industry, focused on: designing a and analyzing a Diverter Gate and a Conveyor Belt fastener and providing CAD, BOM, and manufacturing drawings using **ANSYS Mechanical**, SolidWorks & AutoCAD. See more on [LinkedIn](https://www.linkedin.com/in/AminShobeiri).

COMPUTER SKILLS

- **Mechanical Engineering & Simulation:**
ANSYS: Mechanical: Static/Transient Structural (*Random & Harmonic Vibrations, Response Spectrum, Fatigue, Creep, Buckling, Viscoplasticity, Fracture*), Steady-State/Transient Thermal, Modal Analysis, **Fluent:** Laminar/Turbulent Flows, Two-Phase Flows, Fluid-Structure Interaction, **Sherlock** (Reliability Analysis Tool), **Granta** (Material Assignment) / **SolidWorks:** 3D & Drawing, Complex Assemblies, Sheet Metal, FEM/FEA Simulation / **Inventor:** CAD/CAE (FEM Simulation), **AutoCAD⁺:** Drawings (+ certificate) / **Abaqus:** Structural & Thermal / **CATIA:** CAD, 3D Modeling.
- **Programming:**
MATLAB / Microsoft Excel / Wolfram Mathematica / Linux.

PATENT

- **Inventor:** High-Performance Water Intake Structure (*US, Canada, EU*) [Summer 2020]
Proposed a novel optimal design through extensive *Two-Phase Flow CFD* simulations for a *Coanda-Effect Screen*, boosting the efficiency up to **70%**, using genetic algorithm methods via **ANSYS Fluent**. In collaboration with *Sea-to-Sky Energy Solutions*, a clean energy hydroelectric facility owner in British Columbia.

EDUCATION

- **Master of Applied Science (MASc) in Mechanical Engineering,**
The University of British Columbia (UBC) - GPA: 89.2%
- **Bachelor of Science (BSc) in Mechanical Engineering,** Amirkabir
University of Technology - GPA: 94.0%



[2019–2021]



[2014 – 2018]