BILAL ABDUL HALIM

phone: $(567) \cdot 698 \cdot 0941 \star \text{email: bilal.utoledo@gmail.com}$

SUMMARY

Certified Abaque FEA specialist and Mechanical Engineer with a Master's degree. Expert in FEA, structural mechanics, and Python scripting. Passionate about innovative product design and technical problem-solving in fast-paced environments.

EXPERIENCE

GoEngineer FEA Simulation Specialist

- Expertly utilize Abaqus for finite element analysis, focusing on linear and nonlinear analysis, contact mechanics, and model debugging.
- Conduct static and dynamic structural FEA analysis using Abaqus/Standard and Abaqus/Explicit.
- Provide insightful customer support by diagnosing and resolving model setup and convergence issues, ensuring optimal mesh quality and proper load application in Abaqus.
- Design and deliver engaging, in-depth Abaqus training sessions tailored to the client's applications, encompassing fundamentals to advanced simulation techniques.

University of Toledo Graduate Researcher

- Utilized Abaqus to create finite element models of the ice adhesion interface with aluminum, focusing on studying the stress development at the interface.
- Conducted simulations to measure the minimum force required to remove ice and investigated the effects of different surface topologies on ice adhesion.
- Employed Particle Image Velocimetry to analyze fluid flow and extracted dominant frequencies using Python.
- Automated data extraction and streamlined report generation with Python and IATEX.

Plastic Technologies Inc Finite Element Analysis Engineer January 2019 – August 2019

Holland, Ohio

- Developed and optimized finite element models in Abaqus to run structural, thermal (uncoupled and coupled), and buckling (pre and post) analysis.
- Collaborated with design teams, providing data-driven FEA recommendations for design optimization and material selection.
- Conducted material characterization using Universal Testing Machine for uniaxial and equibiaxial testing of HDPE, developing a hyperelastic material model for simulations.

EDUCATION

University of Toledo, Toledo, Ohio Master's of Science in Mechanical Engineering Concentration in Fluid Mechanics

Overall GPA: 4.0

University of Toledo, Toledo, Ohio Bachelor's of Science in Mechanical Engineering Concentration in Applied Mathematics Overall GPA: 3.9

TECHNICAL SKILLS

FEA & CAD

Software & OS

Computer Languages

Abaqus, Hypermesh, Isight, TOSCA, Fe-Safe, SOLIDWORKS Microsoft Office Suite, Linux, Vim Python, MATLAB, C, AWK, Bash, I^AT_EX

August 2020 – May 2022

August 2015 – May 2020

May 2020 – May 2022

Toledo, Ohio

May 2022 – Present

Ann Arbor, Michigan