

# BILAL ABDUL HALIM

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## EDUCATION

### University of Toledo, Toledo, Ohio

Master's of Science in Mechanical Engineering  
Concentration in Fluid Mechanics

Overall GPA: 4.0

August 2020 – May 2022

### University of Toledo, Toledo, Ohio

Bachelor's of Science in Mechanical Engineering  
Concentration in Applied Mathematics

Overall GPA: 3.9

August 2015 – May 2020

## EXPERIENCE

### University of Toledo

*Graduate Researcher*

May 2020 – Present

*Toledo, Ohio*

- Used Particle Image Velocimetry to study fluid flow.
- Scripted and automated data extraction and analysis using Python.
- Studied dominant frequencies in the flow with signal analysis using Python.
- Prepared reports and manuscripts with L<sup>A</sup>T<sub>E</sub>X.

### Learning Enhancement Center

*Engineering & Mathematics Tutor*

October 2016 – May 2020

*Toledo, Ohio*

- Tutored students individually and in groups all fundamental Mathematics and Engineering courses.
- Guided students through complex mathematical and engineering problems.
- Encouraged independent learning through different techniques.
- Managed and trained new tutors on different skills and techniques.

### Plastic Technologies Inc

*Finite Element Analysis Engineer*

January 2019 – August 2019

*Holland, Ohio*

- Translated various physical problems to accurate FEA models.
- Conducted stress and thermal analysis on different plastic packages.
- Improved company's R&D department through Abaqus Scripting (Python).
- Worked closely with the design team providing suggestions based on FEA results.
- Guided customers to an optimum package design through iterative FEA.
- Wrote and organized proposals and reports for customers.

### PICSSL

*Material Science Researcher*

June 2017 – January 2019

*Toledo, Ohio*

- Lead a project on pressure-sensitive foams.
- Conducted a plethora of polymer characterizations XRD, DSC, SEM, FTIR, UV VIS.
- Designed and built a setup for in-situ pressure vs. transparency measurements, with a published patent.
- Utilized Python and Excel to interpret data, generate high-quality charts and propose hypotheses.
- Presented proposals and reports for specialized faculty members.

## TECHNICAL SKILLS

### FEA & CAD

Abaqus, SolidWorks, NX, Autocad

### Software & OS

Microsoft Office Suite, Linux, Vim

### Computer Languages

Python, MATLAB, C, AWK, Bash, L<sup>A</sup>T<sub>E</sub>X