DENNISE ZEFANYA TOHPATI

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Motivated R&D Engineer with a passion for science & technologies, and a desire to contribute acquired skills to an engineering role, while gaining industrial and academic experience. Goal-oriented and technically proficient in problem solving, seeking to apply expertise in research and development to a position with a leading engineering firm.

Work Experience

Research and Development Engineer *(Sept 2021 - Present)*
Blow Moulding Technologies, Belfast *Belfast, UK*

Digital Twin

Part of internal team with role of software and control development lead, aim to design Digital Twin technologies of Stretch Blow Moulding Process, long term project collaborating with 2 major F&B manufacturing brand.

- BLOWscan automated controller
  - save time up to 90% to do multiple tests from data preprocess up to postprocessing. almost eliminating human interactions.
  - Also integrating the python into labview environment to work seamlesly.
- Oven Surrogate Model:
  - Applying and designing architecture for workflow etc testing, validating, prepare data, and presented in proper manner. Create optimiser
  - for reverse engineer machine to make automated decision less than 5 iterations with 99.5% accuracy to experimental tests
- TSolver V3
  - Developed a software tool that calculates through-thickness preform temperature profile by translating theoretical knowledge into practical application.
  - Successfully improved computational efficiency by 500% compared to previous versions with error less than 2% to experimental tests.
- Thickness Gauge Controller
  - item 1
  - item 2

Digital Catapult: Manufacturing Experiment

- Gain 5000 pounds worth of resources and working together with experimental on Artificial intelligence to develop oven surrogate model

MATLAB Student Ambassador *(Sept 2020 - June 2021)*
MathWorks, Queen's University Belfast *Belfast, UK (Remote)*

- Established the first MATLAB community on campus to promote and introduce the coding state of art MATLAB as well MathWorks presence at university events.
- Demonstrated proficiency in MATLAB and Simulink by planning, hosting, and organising 2-3 training and events per semester on campus

University-Based Projects

Queen's Formula Student Aerodynamicist *(Sept 2020 - Setp 2021)*
Research Team:

- Designed, analysed, and manufactured the aerodynamic undertray for Queen's FS 2021. Improved the overall race car's downforce by 678% and reduce the drag by 13%. Interpreted aerodynamics trends and flow features then resulted into a written report as part of final project.
- Demonstrated proficiency of component design analysis process; surfacing, meshing, validation, and verification using Solidworks and ANSYS Workbench to achieve the high-performance undertray design.
- Developed strong foundation in Computational Fluid Dynamics by prepared and analysed undertray geometries & mesh on both 2D-3D, and utilised post-processing CFD to generate presentable graph trend and flow graphics.

Educational Background

Bachelor of Engineering: Aerospace Engineering *(Sept 2018 - June 2021)*
Queen's University Belfast, Belfast *Belfast, UK*

- Top the class 2021 & Top thesis 2021 — Overall Score: 80%

Foundation in Engineering and Science *(Sept 2017 - June 2018)*
INTO Queen's University Belfast, Belfast *Belfast, UK*

- Overall Score: 84.25%

Achievements

- Annual Highest-Average Mark Awards: Royal Aeronautical Society Prize (Final Year/Stage 3), Foundation Scholarship (Stage 2), Bombardier Stage One Award (Stage 1), INTO Excellence Student Award (University Foundation).
- 200 hours Millennial volunteer Award: given as a young person starts at 51 hours and gains recognition as reached 200 hours of volunteering commitment.
- Inspiring Leaders: given as an active organisational member who held a position and requires a leadership role.

References are available upon requests