Belinda M. Lafaille

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EDUCATION

Zero To Mastery *Remote-September 2023*
Certifications: Python, TensorFlow, PyTorch, Business Intelligence, Power BI, Machine Learning and Data Science, VBA, SQL, AWS

Georgia Institute of Technology **Atlanta, GA**
Master of Science in Biomedical Engineering *May 2023*

University of Central Florida **Orlando, FL**
Bachelor of Science in Mechanical Engineering *December 2020*

ACADEMIC PROJECTS

Georgia Institute of Technology **Atlanta, GA**
Project Title: Comparing Performance of 3 Different Models in 7-Day COVID-19 Cases Forecast
January 2023 – May 2023

- Preprocessed the data retrieved from COVID Act Now database using techniques such data visualization, filling in missing values, and normalization to assess data quality and prepare for modeling.
- Scripted an LSTM model using python and ran parameter tuning (PT) analysis to optimize the model's performance. RMSE was decreased by 26% with PT and model was compared to ARIMA and SEIR of designed by teammates.

University of Central Florida **Orlando, FL**
Senior Design Project *January 2021 – December 2021*

- Designed and fabricated a transfer system for depot wheelchairs that ease the independent transport of paraplegics.
- Conducted dynamic analysis of patients' weight range of 100-350 lbs. to test design function and safety.

EXPERIENCE

Georgia Institute of Technology **Atlanta, GA**
Graduate Teaching Assistant and Research Program Organizer *May 2022 – May 2023*

- Instruct and assist 100+ undergraduate engineering students in problem-solving sessions and evaluation revisions for fluid mechanics, mass transport, and heat transfer topics.
- Managed the Research Experience for Undergraduates Program for the professional development of 70+ students.

Graduate Research Assistant *Aug 2021 - Dec 2022*
Project Title: Engineering a Biomaterial Platform to Engage the Immune System *in vivo*.

- Synthesized FDA-approved polyethylene glycol at 3 densities, validated through rheology, to conduct 25+ mice experiments and determine the effect of the biomaterial's stiffness and adhesive ligands on tumor growth, disease latency, and survival based on bi-weekly measurements and progressive analysis.
- Maintained sterile culture of cancer cells in a petri dish for *in vivo* experiments.
- Stained cells with antibodies for inflammatory versus cytotoxic cell markers and ran flow cytometry assays to elucidate the effect of biomaterial on immune cells recruitment in the tumor microenvironment.

Harvard University – John A. Paulson School of Engineering **Cambridge, MA**
Summer Undergraduate Researcher *2017, 2019*

- Designed a magnetic levitation system with 25% gadolinium in saline solution to separate microparticles and microorganisms based on densities within 5-7 seconds under UV light.
- Investigated self-cleaning properties of hybrid surface, found optimal laser intensity to range between 80-100 mW.

Siemens Energy **Orlando, FL**
Data Analyst Intern *May 2018 – May 2019*

- Assisted the team's data engineers in ETL tasks to maintain data warehouse for analysts in power and gas division.
- Filtered cloud data using SQL query and analyzed with Tableau to model consumer's projective years (5+) of natural gas and renewable energy consumption for 100+ clients throughout the U.S.

SKILLS & INTERESTS

Technical: Python, TensorFlow, PyTorch, SQL, Oracle, Azure, Power BI, Tableau, GraphPad Prism, MATLAB, AutoCAD
Interests: Data Analysis, Data Science and Engineering, Biomedical and Mechanical Engineering, Project Management