

Luke MacDougall

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Objective

Seeking to expand existing innovations and pushing society forward through valuable contributions as a summer college intern. Exceptional abilities in solving multi-faceted problems and remaining calm and professional under pressure.

Education

University of Tennessee Knoxville | Knoxville, TN May 2023
B.S. in Mechanical Engineering & B.S. in Mathematics

- *Minor in Aerospace Engineering*
- Cumulative GPA 3.81/4.00 (*Summa Cum Laude*)
- Cook Grand Challenge Honors Program

Collierville High School | Collierville, TN May 2019
High School Diploma

- *Class rank 1 out of 630, GPA: 4.75/4.00*

ENGINEERING PROJECTS

- Designed operational cooking timer through TinkerCAD
- Designed a program through MATLAB that made a virtual Roomba navigate a maze
- Organized NASA data in MATLAB regarding exoplanets into graphs that highlighted various features of the exoplanets

Work and Research Experience

MATH UNDERGRADUATE RESEARCH | INFLUENZA SHEDDING PROJECT | SEPTEMBER 2020 - CURRENT

- Analyzing data to understand the factors that regulate the duration of shedding of influenza A and B viruses in humans.
- learning about ODE-based models and how to fit models to data using nonlinear mixed-effect modeling framework.
- Expanding averages found from data sets to individual human volunteers to isolate certain factors of the viral shedding and obtain a clearer picture of the process.

PERSONAL BUSINESS | PRIVATE TUTOR | JULY 2015 - CURRENT

- Outlined unique lessons to fit individual needs in skill building and instruction on each subject.
- Developed handouts, study materials and quizzes.
- Provided one-on-one tutoring sessions in Math, Science, English, History, and ACT.
- Worked closely with students in elementary school through college, helping to develop math and essay writing skills.

MAGEE RETRIEVER PRODUCTS | PRODUCTION AND ASSEMBLY ENGINEER | JUNE 2020 - AUGUST 2020

- Utilized various pieces of machinery to develop and create a multitude of leather, wood, and metal retriever products.
- Developed deeper understandings behind various construction methods and learned to work around unforeseen mechanical errors.
- Worked under customer deadlines and how to improve on existing market products.

SKILLS

- Proficient in AutoCAD, Solidworks Excel, and C++
- Highly Skilled in MATLAB, MSWord, PowerPoint, Notes, Keynote, Pages, iMovie, Google Docs/Sheets/Slides...
- Basic Understanding of web development including HTML & Python
- Highly Skilled in solving differential equations and analyzing data
- Highly Skilled in matrix computations and graph development
- **Fluent in Spanish** with Bilingual Seal of Literacy

ACTIVITIES, HONORS, & LEADERSHIP

- Lockheed Martin STEM scholarship recipient
- Hispanic Scholarship Fund recipient
- TEDx speaker committee member
- National AP Scholar
- Captain of High School Water Polo Team
- President of High School Spanish Club
- Secretary of High School International Club