# RIRIKO ('LILIKO') UCHIDA

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## EDUCATION

**Tufts University** 2019 - 2023
*Bachelor of Science in Mechanical Engineering, Bachelor of Science in Physics* *Medford, MA*
**Overall GPA:** 3.80 / 4
**Honors:** Dean's List Fall 2020, Spring 2021
**Relevant coursework:**Robotics & Electromechanical Systems, Engineering Design, Materials & Manufacturing, Thermal Fluid Systems, Mechanics, Calculus III, Differential Equations, Intro to Python, Optics & Wave Motion, Classical Mechanics, Intro to Modern Physics

## WORK EXPERIENCE

**STAAR Center** September 2021 - Present
*On-call tutor* *Medford, MA*

· Provide external academic support for students in introductory physics courses at Tufts

**Guasto Lab** February 2021 - August 2021
*Undergraduate Researcher* *Medford, MA*

· Design and fabricate current amplifier circuit boards for inducing magnetic fields in Helmholtz coils
· Study magnetotactic bacterial motion in microfluidic channels

**Zemax** January 2021 - May 2021
*Physics Intern* *Remote*

· Co-authored a cohesive online training program for the fundamentals of optical design for optical engineer trainees by designing content for various engineering fields from a physicist's perspective
· In collaboration with Edmund Optics

## PROJECTS

**Spotify Audio Analytics Analysis**

· Created a Python program which utilizes last.fm and Spotify API for developers to gather data on listened to tracks and use a mean-shift clustering algorithm to sort tracks with similar analytics

**MBTA Bus Timer**

· Developed a virtual reality experience using Vuforia and Labview to display bus times for the Medford/Somerville 94 bus
· Fabricated a physical timer clock with a 3D printed gear system and laser cut body pieces which encapsulated a servo motor programmed to turn a dial to count down the next bus arrival

**Motorized Blocks**

· Fabricated a tech-smart toy for children at the Tufts University local pre-school
· Programmed a smartphone app to be used with the blocks and control motors and LED lights
· Collaborated with local elementary school to meet with student clients about their desired product

## TECHNICAL SKILLS

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|---|---|
| **Languages** | Python, MATLAB, LaTex |
| **Software** | SolidWorks, KiCAD |
| **Tools** | 3D printing, laser cutting, circuit boards, soldering |
| **Web development** | HTML5, CSS |