# Eli Turner

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## EDUCATION

**University of Michigan**

Bachelor of Science in Engineering in Engineering Physics                                        Ann Arbor, MI
Minor in Mathematics, Focus in Aerospace Engineering                                               April 2018

## PROJECT EXPERIENCE

*Discord Dice Bot*                                                                                    May 2020
- Created a D&D discord bot to help standardize dice rolls and facilitate initiative tracking
- Listens for a prefix entered by any user in the channel and then parses arguments to respond correctly
- Utilizes regular expressions to help parse user arguments
- Uses the Box-Muller transform in order to create a dice mode whose rolls follow a gaussian distribution

*Missions*                                                                                         March 2020
- Created an online responsive todo-list type app using only VanillaJS
- Used localStorage to help manage state and keep users information available between sessions
- Utilized Express and OOP to help keep code modular and easily modifiable

*US Border Crossing Analysis Program*                                                           December 2019
- Extracted data on US border crossings from large, unorganized dataset provided by the US government
- Organized dataset and began tracking running monthly averages for border crossings at each border
- Sorted data by four different metrics in priority order and loaded into CSV file for easy analysis

*Aerospace Senior Design–Space Mission Analysis and Design*                                        April 2018
- Simulated a parawing descent in the Martian atmosphere using a physics based model in python
- Designed a planetary-gearbox in order to reduce mass, volume, and torque requirements for parawing-tip actuators
- Calculated detailed parameters for drag and lift of parawing using XFOIL and AVL

## WORK EXPERIENCE

**Bridges Rock Gym**                                                                     March 2019 – Present
*Desk Staff and Belay Staff*
- Ensured proper opening of gym, including facility maintenance, cleaning, and preparation for events
- Handled customer service requests including membership agreements, customer complaints, and event coordination
- Supervised and assisted in group events ranging from children's birthday parties to company retreats
- Voted "Most Valuable Desk Staff" of 2019 by managers of the gym

**University of Michigan**                                                             January 2018 - April 2018
*Research Assistant – Plasmadynamics and Electric Propulsion Laboratory*
- Fabricated a waterfall board using scroll saw and drill press to minimize systematic error from wire tension
- Fabricated nylon thimble using drill press and lathe to replace standard tape in order to prevent electrical arcing
- Designed a new waterfall board to fix problems such as hole spacing and placement from previous board
- Calibrated and tested pressure in a vacuum chamber in order to gauge various ampacities of wires.

## RELEVANT COURSEWORK & COMPUTER SKILLS

**Computer Science |** Introductory Elements of Programming, Programming Data and Structures
**Math |** Single Variable Calculus, Multivariable Calculus, Differential Equations, Linear Algebra, Abstract Algebra, Real Analysis
**Languages** | Python, C++, HTML & CSS, Javascript (ES6), Node.js, MongoDB
**Applications/Hardware |** Git, Atom, Xcode**,** VS Code, Arduino, Google Suite, Microsoft Office