**Joseph D’Anna website:** [**joeydanna.com**](http://www.joeydanna.com/) **Linked In** **danna.j@northeastern.edu** (845)502-1836

**Work Experience:**

**Massachusetts Institute of Technology** *Mechanical Engineer Co-op* Cambridge, MA **January – August 2024**

* Lead designer and fabricator at the MIT Bio-Mechanical Engineering Department Fabrication Lab under prof Traverso.
* Coordinated the mechanical designs for bio-medical devices with professors, pos-doctoral and graduate students in over 4 cross disciplined projects.  Specializing in small devices that are inserted into the human body that use mechanical actuators such as magnets, springs, or dissolvable material, all of which were then tested on animals.
* Meaningfully contributed to design, fabrication, testing and documentation of multiple novel drug delivery systems.
* Authored excerpts for papers of these projects and will be considered for mentions in patents on select projects where significant design contributions were made.
* Operated and maintained lab equipment including 3D printers, injection molder, micro-compounder, and CNC mill.
* Optimized lab and parts using design matrices working seamlessly with the parameterized Fusion 360 models.
* Thrived in the high paced and rapid iteration environment averaging the manufacturing of 20 products and 3 designs/iteration per week.

**Primal RC** *Technical Support and Driver* Nyack, NY **2022 Summer, 2023 Summer**

· Prepared, maintained, and tested 10 Radio Controlled 1/5 Scale Gas and Electric Trucks for Monster Jam World Finals.

· Created weekly reports using SQL to locate inconsistencies in product inventories, listings and data integrity.

· Generated 300+ product listings and researched product specifications on company websites, eBay, and Amazon.

**Pearl River Public Library** *Instructor* Pearl River, NY **Feb-August 2019-2021**

* Instructed and created curriculums for robotics classes; approximately 12 children per class, 4-5 classes per year.

**Skills and Interests:**

**Applications**: Fusion 360, SolidWorks, AutoCAD, Mach 3(CNC software), OMAX (water-jet software), UCP (laser-cutter software), Large variety of 3D slicers, Notion, electron microscope **Programming Language**: Python

**Manufacturing**: 3D printing (SLA, FDM, Poly-jet), manual lathe, Tormach CNC mill, Carver Press, U4 Universal laser, Xplore micro-compounder and injection molder, Cerakote spray station, water jet, casting using flexible and static molds

**Interests**: CAD, Tinkering, Robotics, Automotive, Remote-Control Cars, Tennis, Fencing and Ping Pong

**Education:**

**Northeastern University***,* Boston, MA

Candidate for Undergraduate in Mechanical Engineering **GPA**: 3.695(Dean’s List) **Expected Graduation: 2027 (5-year)**

*Relevant Courses***:** Thermodynamics, Material Science, Mechanics of Materials, Cornerstone of Engineering,

 Statics, Physics 1 and 2, Calculus 1, 2 and 3, Differential Equations, Public Speaking

Study Abroad: Greece (Fall 2022) *Clubs*: Northeastern Fencing team

**Worcester Polytechnic Institute, (online)** **Summer 2020, Summer 2021**

*Relevant Courses***:** Introduction to Robotics, Introduction to Computer Aided Design

**Pearl River High School**, Pearl River, NY **Graduated: 2024**

*Involvement*: FIRST FTC Robotics Team, Vex Robotics Team (captain), Varsity Tennis, Ping Pong Club

**Design Projects:**

**Energy Re-leash Animal Harness, Cornerstone of Engineering**, Boston, MA **Spring 2022**

Designed and developed a self-powering illuminated retractable dog leash, using 3D models, basic circuitry and physics based kinetic energy principles. [***Project Details***](https://joeydanna.com/wp-content/uploads/2023/10/T15_FP_EnergyRe-leash-2.pdf)

**First FTC Robotics Team, “9773 Robocracy” (Community Team)**, Pleasantville, NY **2019-2021**
*CAD Designer, Builder, Driver*

* Collaborated with 7 teammates to design and build custom robots. Example designs include agile robots that precisely launch foam discs or stacked plastic blocks. Designs were guided structural and weight requirements.
* Applied physics and design principles to manufacture custom 3D printed and aluminum CNC parts using Fusion 360 and Mach 3. Used aftermarket motors, robotics gears, pulleys, wheel types (i.e. mecanum, omni), chains and belts.
* The team competed and won in 2020/2021 FIRST FTC NY Excelsior State Championship qualifying for World Finals.

**Motorized Electric Longboard, High School Capstone Project**, Pearl River, NY **Spring 2021**

· Researched and developed a fully custom motorized longboard using 3D design and machining to mount electrical components while maintaining the structural stability and safety of the longboard. [***Project Details***](https://joeydanna.com/senior-year-capstone-project/)