MATIAS DERMOND

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EDUCATION

Northeastern University, College of Engineering – Boston, MA **May 2024**
Candidate for Bachelor of Science, Mechanical Engineering
Honors*:* Dean's Scholarship **GPA:** 3.7/4.0
Courses: Statics, Dynamics, Material Science, Differential Equations, Thermodynamics, Fluid Mechanics, Measurement & Analysis, Computation & Design, Mechanical Engineering Design, System Analysis & Control, Electrical Engineering, Thermal System Analysis & Design, Material Processing & Process Selection
Activities: Generate Product Development, Give A Hand, American Society of Mechanical Engineers

TECHNICAL EXPERIENCE

Tatum Robotics – Mass Robotics – Boston, MA **April 2023 - Present**
Mechanical Engineer and Team Lead

- Orchestrated project management activities using Trello boards, including hosting and scheduling meetings, monitoring team progress, evaluating milestones, and establishing deadlines for efficient project execution.
- Collaborated on the development of two custom PCBs for Bluetooth, Wi-Fi, and LoRa communication in battery-powered devices.
- Executed rapid prototyping to validate proof-of-concept, ensuring the feasibility and functionality of product designs.

Traverso Lab – BWH/MIT/HMS – Cambridge, MA **January 2023 - June 2023**
Mechanical Engineering Research Coop

- Spearheaded the conceptualization, evaluation, and analysis of an innovative drug-polymer matrix pill fabrication method. Executed comprehensive assessments through High-Performance Liquid Chromatography (HPLC) and in vitro testing.
- Provided leadership, support, and guidance across multiple projects within the fabrication team. Contributed significantly to the entire design cycle, encompassing work on fabrication, testing, and project development related to drug delivery devices.
- Led the development of a groundbreaking drug delivery device in collaboration with a trauma attending physician.
- Orchestrated vendor and equipment procurement, selection, and tracking initiatives to upgrade tools and machines in the lab. The successful execution of these efforts resulted in the approval of a grant.

Droplette Inc. – Boston, MA **January 2022 - June 2022**
Mechanical Engineering Research and Development Coop

- Conceptualized, programmed, and assembled a flowrate machine using SolidWorks and Arduino, streamlining the device testing process and significantly reducing assessment time by approximately 30%.
- Devised experiments, conducted consumer trials, and conducted root cause analysis on returned devices. Collected and analyzed data to drive informed decisions in shaping the design of the next-generation product.
- Produced SolidWorks models, prototyped, and implemented custom machinery tailored to the specific needs and feedback of manufacturing workers.
- Assumed responsibility for the maintenance of capsule trimmers, involving seamless communication between teams, prioritizing tasks (redesign vs time offline), engaging in mechanical design, and collaborating with third-party vendors for parts quoting and procurement.

Generate Product Development Studio – Boston, MA **December 2021 - May 2023**
Hardware Engineer and Project Lead

Tatum Robotics **January 2023 - May 2023**

- Developed wearable device as an assistive technology to DeafBlind individuals using ERMs for tactile communication.
- Produced ready for market DFM solution through advanced prototyping and thorough technical analysis.

Hot Date Kitchen **August 2022 - December 2022**

- Modeled, prototyped, and iterated 100+ part custom industrial date cutting machine to automate production for client needs.
- Built machinery with high torque drive system and intuitive control panel increasing production capabilities by 200%.

Arctic Vision **December 2021 - May 2022**

- Collaborated with a team of four engineers to design an augmented reality ski goggle.
- Designed four iterations of a mechanical hinge enabling frame of view alterations by manual inputs.

LEADERSHIP & SERVICE

Give a Hand – Boston, MA **March 2022 - Present**
CAD Lead and Mentor

- Spearheading the design of a new 3D printable prosthetic hand/arm as a key member of the CAD team
- Leading workshops to share expertise and foster collaboration within the team

SKILLS & INTERESTS

Software: SolidWorks, Fusion 360, ANSYS (Granta), AutoCAD, MATLAB, Arduino
Technical: Hand Drafting and Sketching, Finite Element Analysis, Design for Machining, Tolerance Analysis, Technical Writing
Equipment: Standard Shop Tools, FDM & SLA/SLS 3D Printing, Soldering, Lathe, Manual Milling, Laser Cutting
Interests: Travel, Soccer, Golf, Wake Surfing, Health & Fitness, Mixing music