Dami Thomas

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EDUCATION

Massachusetts Institute of Technology (MIT)   *Exp. May 2026*
Candidate for B.S in Artificial Intelligence and Robotics

- **Relevant Coursework:** Toy Product Design, Fundamentals of Programming, Introduction to Autonomous Machines, Introduction to Algorithms, Mechanics and Materials, Numerical Computation for Engineers, Design and Manufacturing

EXPERIENCE

Wellman Center for Photomedicine | Researcher   *January 2024 - Present | Cambridge, MA*

- Deploying deep learning models to an embedded platform for point-of-injury medical diagnosis utilizing **Python**, the **Nvidia Jetson Nano** development kit, and a portable sensor for data collection and analysis.

Elinta Robotics | Assembly and Design Engineer   *June 2023 - August 2023 | Kaunas, Lithuania*

- Spearheaded the design and implementation of automated systems using **aluminum profiles**, **stainless steel** components, and **FESTO pneumatic technology** for the assembly of a Milk Packaging Line.
- Engineered **pneumatic-powered actuators** and integrated **computer vision algorithms**, optimizing efficiency and quality control in manufacturing processes for building a PCB Tester.

MIT Mechatronics Research Lab | Researcher   *February 2023 - May 2023 | Cambridge, MA*

- Redesigned a mechatronics setup by creating **SolidWorks** CAD models and analyzing tolerances of each component in the system.

MIT AgeLab C3 Connected Home Logistics Consortium | Researcher   *October 2022 - December 2022 | Cambridge, MA*

- Conducted research to envision the development of novel and evolving home services and catalyze smart home organizations seeking to develop them.
- Conceptualized possible smart home usage scenarios across consumers of different demographics and examined how existing technology services fit such scenarios.

PROJECTS

Autonomous Competition Bot   *August 2023 - December 2023*

- Built and programmed an **Arudino**-powered robot capable of navigating various settings using **IMU**, **encoder**, and **line tracking sensor** readings.
- Utilized control algorithms such as **PID** and **Bang Bang Control** to maneuver through mazes and line-tracking maps.

NBA Chatbot   *May 2024*

- Developed a **Flask** application using Python, **NLTK**, and **numpy/pandas** for text processing and cosine similarity calculations, providing accurate responses to user queries regarding NBA history, culture, and players.
- Implemented text tokenization, stopword removal, and **HTML** deployment with a CSV file of pre-defined questions and answers for efficient and relevant user interactions.

"Where's Waldo" Solver   *March 2024*

- Implemented an object detector using **YOLOv8** architecture to solve "Where's Waldo" puzzles with 80% accuracy, leveraging **Python** and **deep learning** frameworks.
- Curated and processed diverse datasets from **Kaggle** and **Roboflow**, utilizing **CVAT** for precise image annotation and bounding box labeling, ensuring robust model training.

Dictionary App   *June 2024 - July 2024*

- Created a **React.js** dictionary web application integrating **Merriam-Webster Dictionary API** for real-time word definitions, synonyms, and example sentences, using **Axios** for efficient HTTP requests and state management.
- Designed a visually appealing interface with **Material-UI, JavaScript**, **HTML5**, and **CSS3**, ensuring visual consistency, usability, and accessibility.

SKILLS

Software: SolidWorks | Autodesk Fusion 360 | Python | Linux | MATLAB | Solidity | Javascript | Arduino | Adobe Illustrator| React.js | HTML | CSS | Github | ROS2 | Numpy | Pandas | YOLO | NLTK | Google CoLab | Juypter Notebook
Maker: 3D Printing | Woodworking | CNC Lathe & Mill | Laser Cutting | Waterjet | Welding | Plasma Cutter | Drill Press