Dami Thomas

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EDUCATION

Massachusetts Institute of Technology (MIT)   *Exp. May 2026*
Candidate for B.S in Artificial Intelligence and Decision Making
- **Relevant Coursework:** Robotic Manipulation, Introduction to Machine Learning, Introduction to Algorithms, Fundamentals of Programming, Introduction to Autonomous Machines, Numerical Computation for Engineers, Design and Manufacturing

EXPERIENCE

NASDAQ | AI Engineer Intern   *January 2025 - February 2025 | Boston, MA*
- Created a **Year End Review Synthesizer** using **AWS Bedrock**, **Python**, and **LLMs**, reducing employee's evaluation data collection time from multiple days to **2 minutes**.
- Implemented **map-reduce** and **LangChain** for parallel processing of Jira tickets, emails, and GitHub commits, enabling automated generation of data-driven performance summaries and optimized managerial review processes.

Wellman Center for Photomedicine | Researcher   *January 2024 - July 2024 | Cambridge, MA*
- Deployed 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 Intern   *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 assembling a Milk Packaging Line.
- Engineered **pneumatic-powered actuators** with integrated **computer vision algorithms** to optimize 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.

PROJECTS

Autonomous Competition Robot   *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.

Yu-Gi-Oh! Deck Builder   *August 2024*
- Developed a Yu-Gi-Oh! deck builder website with **Node.js**, **Express.js**, and **EJS**, integrating the YuGiOhProDeck API to access and filter over **12,000 cards**.
- Implemented features for managing favorite cards and added OpenAI API for personalized deck advice and card news.
- Utilized **RESTful APIs** and **Axios** for efficient data handling and seamless user experience.

Pac-Man Bot   *December 2024*
- Built a **Deep Convolutional Q-Network** using **PyTorch** and **OpenAI Gymnasium**, implementing epsilon-greedy exploration and experience replay to achieve autonomous Pac-Man gameplay with **average scores of 1000.**
- Designed a custom **CNN** architecture for efficient game frame processing and feature extraction, enhancing decision-making capabilities in the Pac-Man environment.

Lecture Notes Tutor   *June 2024 - July 2024*
- Developed a **RAG** system using **LangChain**, **Chroma**, and **Ollama** embeddings, implementing cosine similarity search, text-to-vector conversion, and PDF document parsing with LangChain tools.
- Integrated a Command Line Interface with argparse for query input and vector database management, leveraging **LLMs** from **Ollama** for context-aware responses based on retrieved document chunks.

SKILLS

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