

# JACOB DELL

Boston, MA ◊ jacob215@mit.edu

## EDUCATION

### Massachusetts Institute of Technology

B.S. in Computer Science and Engineering, B.S. in Mathematics — GPA: 5.0/5.0

Cambridge, MA

Class of 2028

**Relevant Coursework:** Fundamentals of Programming, Algorithms, Machine Learning, Circuits, Computation Structures, Software Construction, Low Level Programming, Signal Processing, Linear Algebra, Diff. Eqns, Physics I, II, III

**Varsity Athletics:** Football - Defensive Line

## EXPERIENCE

### Lockheed Martin

*Software Engineering Internship*

Bethesda, MD

May 2025 – August 2025

- Developed and maintained web applications using both ASP.NET MVC with C# and Web Forms with VB.NET, implementing controller logic, rendering views, and building front-end components to improve user experience, performance, and code quality through regular reviews and documentation updates.
- Utilized SQL for data querying, updating, and management, including writing stored procedures to support application functionality and improve efficiency.
- Collaborated with the product team in Agile Scrum sprints using Jira to plan, track, and deliver iterative software improvements; communicated directly with the customer and resolved 55+ reported issues.

### MIT Mission Innovation X

*Undergraduate Researcher*

Boston, MA

September 2025 – Present

- Collaborating with Picogrid to design machine learning-based weather models, leveraging high-dimensional meteorological datasets, graph neural networks, and edge computing for real-time, deployable forecasting systems.
- Conducting literature reviews to inform model design, and optimizing neural network architectures for accuracy and computational efficiency, including implementation with GraphCast models in constrained environments.

### MIT Sloan Undergraduate Research (UROP)

*Undergraduate Researcher*

Cambridge, MA

December 2024 – May 2025

- Emil Verner, Associate Prof. of Finance** — Researched U.S. financial stability by investigating the causes and patterns of historical bank runs; created structured event records with detailed summaries and contextual insights.
- Tong Liu, Assistant Prof. of Finance** — Analyzed the impact of biases on FDA advisory committee voting behavior; explored how affiliations influence pharmaceutical company incentives through publication and background data analysis.

### MIT Academic Positions

Cambridge, MA

- Course Grader, Department of Mathematics** (2025 – Present)
- Undergraduate Teaching Assistant, Department of Physics** (Fall 2025 - Present) — Support Classical Mechanics instruction and student group work; redesigned E & M online materials.

## PROJECTS

### Mobile Autonomous Systems Laboratory (MASLAB)

2024

- Designed, built, and programmed an autonomous robot using ROS2 over four weeks, integrating mechanical design, electrical systems, machining, and software, placing 2nd out of 14 teams.
- Implemented real-time object detection using YOLO and OpenCV; used PID controllers for precise motion control.

### Neural Networks From Scratch (MNIST & GPT-2)

2025

- Built a NumPy-based MNIST classifier with manual backprop and SGD, and implemented a compact GPT-2-style Transformer with multi-head attention and sampling for text generation.

### Wearable Air-Quality Sensor - MIT Lincoln Laboratory

2024

- Programmed a Raspberry Pi Pico in Python to build a prototype with temperature and air-quality sensors that alert wildland firefighters of hazardous fume exposure, while researching integration methods for real-time wildfire monitoring.

## SKILLS

### Languages

Python, C++, Julia, TypeScript, C#, VB.NET, C, Assembly, Java, HTML, CSS, SQL

### Frameworks/Tools

Git, ROS2, PyTorch, Jupyter Notebook, NumPy, Pandas, SciPy, Matplotlib, ASP.NET, Jira

## LEADERSHIP & INVOLVEMENT

**Sigma Chi Fraternity**, House Manager, Secretary

Fall 2024 - Present

**MIT Scholars of Finance**, Member

Fall 2024 - Present

**AFCEA Central Maryland Chapter Skinner Merit Scholarship Recipient**

2024

**National Merit Scholar & High School Valedictorian**

2024

**National Football Foundation Team of Distinction**, 1 of 84 in the Nation

2024