

Tomas D'Avola

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EDUCATION

Northeastern University, Khoury College of Computer Sciences

Boston, MA

Candidate for a B.S. in Computer Science & Mathematics

May 2027 (Expected)

- GPA: **3.92/4.0**
- Relevant Coursework: Graduate AI, Graduate NLP, Data Structures & Algorithms, Software Engineering, OOD, Theory of Computation (2x TA), Matrix Methods for Machine Learning, Linear Algebra, Probability & Statistics, Differential Equations, Number Theory, Group Theory
- Achievements: **6x** Dean's List (2023, 2024), Vice Chancellor's Student Leader of Excellence and Centre of Excellence Math Tutor, **2x** Hoo Chung Chang Merit Scholarship, Northeastern IPA starting roster.

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript, Go, Rust, R, Swift, C++, C, Objective-C, Java, Kotlin, HTML, CSS, SQL.

Technologies: PyTorch, JAX, TensorFlow, XGBoost, Scikit-learn, Hugging Face, CUDA, Spark, Kafka, AWS, Docker, BigQuery, Airflow, Node.js, Next.js, React, FastAPI, Flask, NumPy, Pandas, Git, Kubernetes.

Spoken Languages: English (native), Spanish (fluent), Mandarin (fluent with 13 years of reading, writing, speaking)

PROFESSIONAL EXPERIENCE

Phia, AI-powered marketing analytics platform co-founded by Phoebe Gates

Manhattan, New York

Software Engineer

January 2026 – Present

- Discovered and resolved a platform-wide caching failure across **21** core queries, preventing stale data from propagating to **100%** of marketing and executive dashboards (ad spend, ROAS, KPI reporting).
- Built and trained **2** XGBoost buyer prediction models on **1.1B** rows with **40+** features (**0.887** AUC, **92%** TNR), enabling targeted re-engagement campaigns for non-buyers.
- Built a client-facing ad intelligence platform analyzing **20K+** competitor ads across **1,800+** companies, applying language, video, and object detection to classify ads and generate a ranked competitive feed.
- Built **5** Airflow pipelines ingesting **200M+** UGC views across **90** creators, enabling real-time performance tracking and automated detection of viral content for marketing decisions.
- Built **4** internal and client-facing dashboards driving **\$400K+**/month in ad spend decisions via quantitative performance analysis.

Apple, Inc.

Apple Park, Cupertino, CA

Software Engineer

January 2025 – August 2025

- Improved performance by **2x-4x** in internal image, audio, video, PDF, and stream processing by identifying and resolving memory leaks in a C-backed Python package, resulting in **~8x** reduction in memory usage for PDF and stream workflows.
- Enabled natural language querying of **260+** file metadata attributes (e.g., codecs, formats) by integrating RAG with LLMs and NLP techniques, improving accuracy and speed of file searches.
- Implemented a **50%** speed increase in CI/CD using Dockerfile and by refactoring **3** repos into **1** (reducing repo size by **20K** lines).
- Engineered a cloud-based file storage system for **1M+** NDA documents with continuously synchronized metadata, enabling scalable, low-latency retrieval of sensitive files.
- Tech lead (team of **4**) building Echo, an Apple Intelligence inference system that detects intent in messages and schedules context-aware resurfacing, ranked **Top 10** of **~1,500** teams and presented to cross-functional Apple VPs.

FileAI, AI platform for document processing and workflow automation (Series A, \$20M+ raised)

Singapore

Software Engineer

May 2024 – August 2024

- Built a React/Redux preview modal adopted by **99%** of clients, enabling inline editing of tax and receipt data before export, reducing manual correction and improving workflow efficiency.
- Built AI invoice extraction software in Python to automate accounting workflows, used by enterprise clients including a **100+** location Michelin-star chain and a **\$12.4B** Japanese computer manufacturer.
- Reduced testing steps by **90%** (**12** to **1**) by automating local AWS Lambda testing with Flask RESTful API and Docker Compose.
- Expanded supported document types by **20%** by building Python data processors on AWS Lambda.

PROJECTS & OUTSIDE EXPERIENCE

HackMIT | Eyecraft – AI Engineer/Software developer

September 2025

- **1st place** project of the Entertainment track @ HackMIT, ranked amongst **350+** projects created by over **1,500** hackers globally.
- Developed a Minecraft accessibility mod with head-tracking, facial-expression recognition, and voice commands, using a real-time MediaPipe/OpenCV pipeline to map expressions and pose to inputs.
- Designed and implemented **2** JAX/Flax neural networks (**95%** accuracy), reducing manual hand input by **~95%** for common tasks.
- Engineered a Python-Java integration layer (using Fabric API) to stream ML outputs into Minecraft with **<50 ms** latency.

AI Apple Hackathon – AI Engineer/Software developer

June 2025

- Awarded **2nd place** for leveraging retrieval-augmented generation (RAG) and MCP techniques to enable LLMs to intelligently query and compose **100+** Internal Apple React components based on developer prompts and project context.

HackMIT | Cosign – AI Engineer/Software developer

September 2024

- **Top 12** of **520+** finalists. Classified **250+** motion-based ASL signs with a CNN/LSTM model using TensorFlow.
- Refined **90K+** ASL video samples using NumPy/Pandas, improving model performance by **3x** for real-time gesture classification.
- Enabled continuous webcam data flow between model and React frontend using Flask-SocketIO.

Finhacks – Co-Founder

June 2024 – January 2025

- Pioneered Northeastern's largest 2024-25 hackathon (**400** applicants, **130+** attendees), leading **30** organizers/mentors/judges.
- Secured **\$10K+** in sponsorship and leadership support from Hudson River Trading, Google, Microsoft, Citi, Visa, JPMorgan.

Interests: Formula 1, Hiking, Camping, Football, Volleyball, Poker (IPA), Math, Puzzles, Baking, Biking, Grilling, Overwatch (Top 500)