Dragos Lup

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Education

Georgia Institute of Technology — BSc, Computer Science, GPA: 3.54/4.0 *May 2025*

Stuyvesant Highschool — Highschool Diploma, GPA: 94.7/100 *May 2021*

Work Experience

Full Stack Engineering Intern *May 2022 — September 2024*

iTech Computers *Medias, Romania (Hybrid)*

- Engineered full-stack enhancements for the web platform, streamlining legacy architectures.
- Refactored backend to optimize data fetching, resulting in a 3x reduction in page load latency.
- Developed a high-concurrency data entry interface, improving workflow for internal teams.

Projects

Nosi Editor | TypeScript, Rust | Security-Focused Text Editor *July 2025*

- Specialized fork of VSCode designed to prevent cheating, currently in use at Georgia Tech.
- Provides file encryption and decryption, which disables copy and paste, and sharing the files.
- Disables screensharing, screen recording, and records keystrokes to add multiple levels of security.

Campus Cats App | TypeScript, React, SQL | Cat Tracking Social App *March 2025*

- Developed a modular and responsive web app for tracking and cataloging campus cats, integrating Firebase authentication and GT SSO for a seamless user and future developer experience.
- Optimized SQL queries and indexing, achieving 35% faster updates for high-frequency data.
- Created an announcement system to notify users about found cats, reducing report processing time

Manga OCR | Python, PyTorch | Japanese Character Recognition *December 2024*

- Tested ResNet, Tesseract and Vision Transformer (ViT) models to identify Japanese in manga.
- Developed an image preprocessing pipeline, extracting text bubbles, improving speed by 150%.
- Created and augmented a synthetic dataset with labeled images to enhance OCR performance.

Dansu | Python, CUDA, MMPose | Machine Learning Dancing Game *June 2024*

- Built a gesture-controlled rhythm game using MMPose for real-time pose estimation.
- Trained a custom model on a NVIDIA GPU to massively increase frame rate from 4fps to 30fps
- Designed a pose-approximation buffer layer to mask processing jitter, ensuring smooth gameplay.

Activities and Awards

Runner Up for GT Global Game Jam *February 2023*

- Designed an evolving map and towers that changed as you played, creating diverging paths.
- Focused on clean and modular fundamentals, using data structures for easy expandability.

Skills

- **Coursework**: Procedural Content Generation, Computer Architecture, Algorithms, Computer Vision, Artificial Intelligence, Machine Learning, Deep Learning, Robotics and Perception
- **Technologies**: C#/C++/C, JavaScript, Python, Rust, AWS, SQL, Lua, GLSL, Java, Swift, Go
- **Tools**: React, PyTorch, NumPy, Git, Firebase, Node.js, MongoDB, Unity, Docker, OpenGL
- **Languages**: Romanian (Native), English (Native)