

Leo Gagnon

INTERNSHIP SUMMER 2024

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Education

Massachusetts Institute of Technology

Bachelor's in Mathematics and Computer Science

Cambridge, MA

Aug 2022 - Jun 2026

- GPA: 5.0/5.0

- **Relevant Coursework:** Introduction to Algorithms, Design and Analysis of Algorithms, Intro to C and Assembly, Fundamentals of Programming, Programming Language Design

Central Piedmont Community College / Levine Middle College

High School Diploma

Charlotte, NC

Aug 2018 - Jun 2022

- GPA: 4.7/4.0

- **Relevant Coursework:** Advanced Java Programming, Introduction to Microcontrollers, C++ Programming

Experience

ChaosSearch

Software Engineering Intern

Boston, MA

May 2023 - Aug 2023

- Developed novel algorithms and researched literature for anomaly detection in time-series data
- Implemented production code in Scala with Akka on large distributed systems
- **Technical Skills:** Python, Scala, Data Science, Big Data

Programming Languages and Formal Verification

Undergraduate Researcher

Cambridge, MA

Jan 2023 - Present

- Working with a team under **Professor Chlipala** to create a Python-level language
- Wrote syntax, sample programs, and implemented and verified JSON interoperability
- **Technical Skills:** Coq, Programming Languages, Verification

iDiyas.com

Lead Software Engineer

Charlotte, NC

Jan 2022 - Aug 2022

- Worked with a startup to create a site (<https://idiyas.com>) to connect prolific inventors
- Efficiently parsed and processed raw data to create a structured database
- **Technical Skills:** Next.js, MongoDB, Linux (Ubuntu), Git, Python

Climbing Club

Executive Officer and Competitive Climber

Cambridge, MA

Jan 2023 - Present

- Lead team practices and coordinated groups
- Organized free climb night for 70+ people

Projects

Tritris (Tetris with Triangles)

Sole Creator

Jan 2021

- YouTube videos with over 750K+ views (<https://youtu.be/HMkfj1OJ08Q>, <https://youtu.be/ZCPDytHqdT0>)
- Playable at <https://leognon.com/tritris/>
- Created Online Multiplayer Version <https://tritris.leognon.com>
- **Technical Skills:** JavaScript, p5.js, Node.js, React, Express, Socket.io

NEAT Steering

Implemented Algorithm

Mar 2020

- Read the paper on NEAT, Neuro Evolution of Augmenting Topologies, and implemented and applied the algorithm to a car steering simulation
- **Technical Skills:** JavaScript, Genetic Algorithms, Neural Networks, Graph Implementations

Skills

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| Programming Languages | JS, Node.js, MongoDB, Coq, Scala, Haskell, C++, Python, Java, C# (Unity) |
| Subject Areas | Data Structures and Algorithms, Frontend/Backend, Machine Learning |
| Competitive Programming | Google Kickstart, Round H, place 1104th Codeforces, Max Rating 1483 |
| Miscellaneous | Vim, Linux, Shell (Zsh), LaTeX, Git/GitHub |