

Zachary Goldstein

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EDUCATION

Tufts University | [School of Engineering](#)

📅 Expected Graduation: May 2023

📍 Medford, MA

- Bachelor of Science in Computer Science & Mechanical Engineering
- GPA: 3.71, Dean's List
- Relevant Coursework: Algorithms, Computation Theory, Data Structures, Engineering Design, Introduction to Security, Machine Structure & Programming, Materials & Manufacturing, Mechanics, Programming Languages, Thermal Fluid Systems

EXPERIENCE

Tufts University | [Teaching Assistant – Computer Science](#)

📅 Jan. 2020 – May 2021: **Data Structures**

📍 Medford, MA

📅 Sep. 2021 – Present: **Machine Structure & Programming**

- **Teach** locality, assembly, emulation, optimization, recursion, sorting, hashtables, graphs
- **Lead** weekly office hours and lab sessions
- **Develop** assignments and reference materials
- **Manage** server for student use as remote development environment
- **Maintain and enhance** automatic grading framework using bash scripts and Docker

Digital Arts Experience | [Instructor](#)

📅 Jan. 2016 – Present

📍 Scarsdale, NY

- **Teach** courses in 3D Printing & CAD, computer science, and graphic design
- **Maintain and operate** makerspace equipment
- **Collaborate** with teachers to integrate modern technologies into existing curricula

EHS Robotics Club | [President](#)

📅 Sept. 2015 – June 2019

📍 Scarsdale, NY

- **Contributed** to foundation and growth of robotics club as four-year president
- **Oversaw** mechanical design of competition robots and year-round fundraising

PROJECTS

3D Printable School Supplies | [📺 Proof of concept](#)

📅 Jul. 2018 – Present

- **Design** teaching aides and school supplies that can be 3D printed
- **Leverage** the flexibility and low production costs of additive manufacturing
- **Offset the cost** of 3D printers to make the technology accessible to schools

Syntax Highlighting Packages | [📁 Public repositories](#)

📅 Apr. 2020 – Nov. 2020

- **Created** regex-based highlighters for novel instructional languages used at Tufts
- **Implemented** context-dependent parser to identify ill-formed source code in real-time

Boolean SAT Solver & Language Optimizations | [📁 Private repository](#)

📅 Oct. 2020

- **Implemented** the DPLL SAT solving algorithm using continuation-passing style
- **Investigated** the consequences of alternate operational semantics for lambda closures

SKILLS

Bash C++ C CSS

HTML Java Javascript

L^AT_EX Python R

Scheme SmallTalk SML

Solidity x86

Bootstrap Docker Git

Linux/UNIX LLVM

Metasploit JavaFX

MongoDB MySQL

Emacs Photoshop

Illustrator InDesign

Premiere Pro Blender

Fusion 360 Logic Pro X

MATLAB SolidWorks

Sublime Vim Wireshark

Electronic Systems

UI/UX Robotics

INTERESTS

Coffee Composition

Cycling French Go

Guitar Latin Leathercraft

Piano 3D Printing

EXTRA-CURRICULARS



Collegiate A Cappella
Shir Appeal Music
Director. Check us out
on Spotify: [click here](#)



All-State Trumpet
One of 36 trumpet
players invited to
2018 NY All-State
Conference