

JACK LEIGHTCAP

[@jack@leightcap.com](mailto:jack@leightcap.com) · github.com/jleightcap · jack.leightcap.com · [linkedin.com/in/jleightcap](https://www.linkedin.com/in/jleightcap)

EDUCATION

Northeastern University Boston, MA

August 2018 - May 2023

BSEE Computer Engineering · Mathematics and Computer Science, minors · *GPA*: 4.0

Dean's List all semesters · Lawrence Award, highest GPA in year (physics department)

Relevant Courses

| | | | | | |
|--|------|------|-------------------------------------|------|------|
| Circuits and Signals: Biomedical Applications* | EECE | 2150 | Embedded Design: Enabling Robotics* | EECE | 2160 |
| Fundamentals of Programming II* | CS | 2510 | Fundamentals of Networks | EECE | 2540 |
| Computer Systems * | CS | 3650 | Calculus III | MATH | 2321 |
| Differential Equations and Linear Algebra | MATH | 2341 | Cornerstone of Engineering II | GE | 1502 |

* – *ongoing*

Cambridge University Cambridge, United Kingdom

July 2019 – August 2019

Pembroke – King's Summer Programme : Young Global Leaders Scholarship · Northeastern GEO Grant

Abington Heights High School Clarks Summit, PA

2014 - 2018

High School Diploma, *GPA*: 4.0

Mathematics Award · AP Scholar with Distinction · PLTW+AP Award · Symphony, Chamber, Honors Orchestra

PROJECTS

Classical Scores Project

2017 - Present

- Request-based YouTube channel dedicated to sharing synced scores and recordings of obscure or underappreciated classical music. Grew channel to 3 million total views and 8 thousand subscribers in two years.
- Automation of video editing with ongoing Python project `ScrollingScore` to prepare images for use in videos.
- Backlog of videos produced into 2022 with automated release scheduling.
- Engraving of published manuscripts in Lilypond, a \LaTeX -derived music typesetting program.

\LaTeX Transcriptions

- All notes taken in lecture are transcribed into \LaTeX for personal clarity and as a teaching aide for classmates.
- Highly-refined workflow to bring transcription rate close to handwriting rate with vim, vimtex, and UltiSnips - later adding TikZ/CircuiTikZ.
- Expanded into shareable and modular `.tex` templates for Notes transcribing, Homework submissions, dense Cheat Sheets, and Labs.

ACTIVITIES

Avant-Garde Piano Series

2017 - Present

- Recorded Erik Satie's *Vexations* (1894). Longest recorded solo marathon piano performance, uninterrupted 34-hour recording. Live-streamed performance using Open Broadcaster Software and ffmpeg.
- Additional recordings include works by Antheil, Cage, Ives, Reich, and Rorem.

MBTA Speedruns

2019

- Used brute-force Travelling Salesman approach to determine the shortest possible path which visits all stops of the MBTA Green Line, executed path with a personal best time of 3:15.

SKILLS

Software

- Proficient: GNU/Linux (Ubuntu, Arch), \LaTeX , Git, GIMP, Microsoft Office Suite, Autodesk Inventor, Adobe Premiere, Adobe Photoshop, Lilypond
- Familiar: SolidWorks, AutoCAD, Web Development (Hugo, HTML, CSS)

Programming

- Proficient: Python, Racket
- Familiar: C++, MATLAB, Wolfram Mathematica, Bash

Miscellaneous

Classical Piano, Viola, Origami mathematics and tessellations, Electronics, Art History