JACK LEIGHTCAP

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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 TeX-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, UltiSnips, and Bash scripting.
– 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, C++, Racket, Bash
– Familiar: C, AMD64 Assembly, MATLAB, Wolfram Mathematica

Miscellaneous

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