

A history of Christian's teaching, best read in reverse-chronological order.
Last updated August 8, 2022, 22:43 ET

Summer 2022 @ MIT Beaver Works—remote

- Was invited back to teach *Medlytics*, a medical machine learning and data science course for advanced high schoolers.
- Gave lectures on deep neural networks, image processing, the Fourier transform, and statistics.
- Learned even more this year, from a group of thirty-two high schoolers who have been coding for far longer than *I've* been potty-trained.
- Managed to run the course while fixing a ruptured sewage line in my house's basement.

May 2022 @ Maine Indian Education—in-person

- Returned to Indian Island School and Sipayik in Maine, gave Arduino and Python workshops.
- Met with the Sipayik school's technology coordinator, discussed a potential future drone-based Python successor to the Arduino material I had been covering.

March 2022 @ Centro de Tecnologias Estratégicas do Nordeste, Brasil—remote

- Gave a two-day-long introduction to electromagnetism and Python programming in Portuguese to girls in Recife, Pernambuco, in the northeast of Brasil.
- Arranged materials for students to create their own electric motors from home during class.
- Designed a Python chatbot project for the students to make in groups using Deepnote.

Spring 2022 @ MIT Beaver Works—remote

- *Many Interesting Things for Aspiring Engineers*, the high school adaptation of *Many Interesting Things*, enters its third iteration.

December 2021 @ Inspirit AI—remote

- Migrated my entire teaching setup from Boston to Miami for the winter holiday. Considering the TSA's interest in my electronics-stuffed bags, I figured this was worth a bullet on this document.
- Gave an introduction to machine learning to a group of fifteen high school students around the world, spanning more time zones than I can count. I myself was teaching past midnight.
- Inherited a curriculum with several holes, adaptively filled them with material of my own.

November 2021 @ Maine Indian Education—in-person

- Made a two-school tour of Native American reservations, now including the Sipayik school at Pleasant Point, Maine.
- Gave an introduction to programming and circuits with Arduino and connected with students about life on each of the reservations.

Fall 2021 @ MIT Beaver Works—remote

- *Many Interesting Things for Aspiring Engineers*, the high school adaptation of *Many Interesting Things*, enters its second iteration.
- Now featuring a team of teaching assistants offering Python programming office hours to elaborate on topics introduced in class. Students responded favorably!

Fall 2021 @ MIT—remote

- Designed and presented Python-based demonstrations for *8.01: Classical Mechanics*, MIT's first of two freshman physics courses.
- Mentored student groups on their final projects.

Summer 2021 @ MIT Beaver Works—remote

- Taught *Medlytics*, short for medical analytics: an advanced course on machine learning and data science with medical data applications, to 24 high incredibly gifted high schoolers.
- Led a teaching team of four graduate student TAs. We would check on student progress, assign groups, and develop
- Gave lectures and led interactive Python notebooks using Deepnote.
- Coordinated guest lectures with medical professionals from MIT, Harvard Medical School, Massachusetts General Hospital, and Brigham and Women's Hospital.
- Learned a lot, from high schoolers who have been coding longer than they've been potty-trained.
- Managed to run the course while searching for a house to buy in 2021's insane market.

June 2021 @ Indian Island School, Indian Island, Maine—in-person

- Piloted an Arduino-based circuits and programming course at a Native American reservation.
- Was invited back and worked out a partnership with Maine Indian Education to visit local schools.
- Trying to render myself obsolete—my aim is for these students to propagate the knowledge I share (and the excitement some of them felt upon applying it), and start their own student groups around these things.

Spring 2021 @ MIT Beaver Works—remote

- Taught *Many Interesting Things for Aspiring Engineers*, a high school version of *Many Interesting Things*, to 30 high schoolers from underserved communities.
- Similarly to the ESG seminar, we had live demos, including a live dissection of an old MacBook.
- Used a collaborative blackboard website for student participation via tablets.

Spring 2021 @ MIT—remote

- The first test of the remote teaching setup.
- Developed and taught *ES.S30: From Transistors to TikTok*, an MIT freshman seminar and adaptation of *Many Interesting Things* featuring Python applets and two classes on networking and cybersecurity—we used brute force methods to crack a Wi-Fi network I made in my apartment.
- Topic list: computer architecture, Linux, machine learning, computer vision, quantum mechanics and quantum computation, and the internet+cybersecurity.

December 2020 @ Home

- Designed and built a remote teaching studio in my apartment's second bedroom, which would allow teaching to feel more like I'd do it in person.
- Greenscreen, wall-mounted iPad Pro, lots of green gaffer tape, two MacBooks, an iPhone camera, and many many USB to HDMI capture cards.
- Provides a video feed with adjustable scenes (me talking, me with my virtual blackboard—iPad—behind me, my slides, my slides + blackboard, and an adjustable overhead view of my desk for looking at circuits and opening up electronics)

August 2020 @ MIT Chemistry Department—in person

- Filmed and edited demonstration videos for use in the newly digital version of MIT's freshman chemistry course, just in time for MIT's first all-online fall semester.
- Worked with the MIT Edgerton Center to bring in an ultra-high-speed video camera, which we used to film a thermite explosion at 50,000 frames per second.

Spring 2019 @ MIT

- Designed and taught *ES.S20: Differential Equations with Python* alongside my friend and colleague Dr. Jerry Orloff. The course was a supplement to MIT's introductory differential equations course.
- Created Python applets in Matplotlib, which students would complete as part of weekly homework. Assignments included a second-order differential equation solver, an audio filter applet, and a synthesizer.
- Wrote a report for the math department; the course was taught for the following three semesters.

Fall 2018 @ MIT

- Taught *18.02: Multivariable Calculus*. Gave daily lectures, held near-daily office hours, and conducted tests and grading.
- Taught *Many Interesting Things* as a freshman advising seminar to a group of nine MIT freshmen.
- Served as an academic advisor, providing curricular and emotional support to students as they navigated the whirlwind of their first year at MIT.

Spring 2018 @ MIT

- Piloted *ES.S10: Many Interesting Things*, a novel freshman seminar. Introduced students to material from advanced undergraduate courses, without the pressure of being in those courses.
- Topics were presented with a light workload and no formal assignments or exams, in such a way that students' intrinsic motivation was able to serve as the guiding force for the class.
- The seminar ran through the Spring term of 2018 and covered computer architecture, strobe photography, probability, quantum computation, machine learning, computer vision, relativity, and cosmology.
- Wrote my master's thesis on the course and its outcomes. Student feedback was favorable, and I was hired as a full-time lecturer for the 2018-2019 MIT academic year.

Fall 2017 @ MIT

- Taught *18.02: Multivariable Calculus*, MIT's second freshman calculus courses, while working on my Master of Engineering degree.
- Lead *6.163: Strobe Project Laboratory*, MIT's strobe photography course.

Summer 2017 @ Yuan Ze University, Taiwan

- Led a team of MIT students to introduce over two hundred school and college-level students to computer science
- Designed English-minimal curricula for computer architecture, Python programming, and high-speed photography

January 2017 @ ABA Global Education, Recife, Pernambuco, Brasil

- Introduced programming and circuits through Arduino to fifty high school students.
- Taught in both English and Portuguese.

2013-2017 @ MIT

- In January of 2014, the second semester of my freshman year, MIT gave me sophomore status. This was a dangerous thing for them to do: as a student, I crashed and burned under the weight of all the courses I thought I *could* take.
- One good thing comes of it: sophomores are allowed to be teaching assistants. I ask to be a teaching assistant for multivariable calculus and get the job.
- During undergrad, I am a teaching assistant for *18.02: Multivariable Calculus* and *6.163: Strobe Project Laboratory*.