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# Edabit: [https://edabit.com/#!](https://edabit.com/#)

This online course by Edabit was created for programmers that feel stuck in learning material. This course bridges the gap between material that is far too easy and basic, and material that is much too advanced. There are several tutorials to get you started as well as a number of challenges to test your knowledge. By simulating real world programming work, Edabit prepares you for the job market and does so in a fun and addictive way by implementing aspects of a video game including gaining XP, unlocking achievements, and leveling up.

# Devslops: <https://devslopes.com/>

Devslops is an online programming course that focuses on app development. With a number of different course options, you can choose to participate in Full Stack, front end, or back end development courses. Professional programmers review all of the code that you will be doing during the duration of the course, which will give you a great idea of where you stand and if you’re ready for the job market. The courses include graded projects, hands-on exercises, coding challenges, exams, and they give you the opportunity to build real apps.

# Udemy: <https://www.udemy.com/>

Udemy is a collection of over 210,000 online video courses. There is a vast array of courses to choose from, each focusing on different languages and areas of concentration in the computer science field. Udemy has been utilized and is trusted by 14,400 companies worldwide as well as millions of learners. Some of the notable courses that I am interested in are Python, Web development, javaScript, and data science.

# Coursera: <https://www.coursera.org/>

Coursera collaborates with 300+ leading universities and companies including Duke, Google, IBM, and Stanford to name a few. It offers the opportunity to start, switch, or advance your career with 5,800+ courses. Coursera also offers a number of professional certifications and even degrees. While they offer online courses they also act as a center for job placement by giving users the view of a number of job offers.

# Code Academy: <https://www.codecademy.com/>

Code Academy is one of the leading online courses for software engineers of all skill levels. One of the newest courses offered is a course in AI which walks you through the ethics, different types, and leverage strategies in the job market. Learning with Code academy is easy with free courses offered in hands-on environments meaning that users will start coding in the very first lesson. They also offer plans for businesses so you can get your entire team involved in interactive team based courses.

# Hack the box: <https://www.hackthebox.com/>

Hack the Box is a great resource to learn coding and cybersecurity skills after you graduate. It teaches ethical hacking and penetration testing. It can show you a list of known vulnerabilities and how to both exploit and fix them. It offers hands-on learning with challenges and assignments to help hone your skills.

# Try hack me: <https://tryhackme.com/>

TryHackMe is a great resource for learning coding in the context of cybersecurity and ethical hacking. TryHackMe provides a virtual lab environment to practice cybersecurity skills for participatory learning. It covers many aspects of cybersecurity with structured paths that go from beginner to expert so it is good for people with no experience whatsoever or someone who is trying to refine their skills.

# W3Schools: <https://www.w3schools.com/>

W3Schools is a popular online resource that provides tutorials and documentation for web development and programming. It covers wide varieties of languages as well as frameworks with paced tutorials that start with the basics then get in to more advanced topics. W3Schools provides interactive coding examples with live demos for various techniques and features in web development.

# Linkedin Learning: <https://www.linkedin.com/learning>

LinkedIn Learning gives you access to a large variety of structured courses with organized and clear learning outcomes. These classes are very good quality courses with professional and expert people creating the content. It offers hands-on practice in the form of challenges and exercise.

# SeedLabs: <https://seedsecuritylabs.org/>

SeedLabs is a website that makes anyone interested in cyber security have hands-on experience with the most common vulnerabilities in cyber security. It has a virtual machine that you can download and have a PDF with some tasks that makes you learn how to do the vulnerability, then teaches you how to patch it so you can know how to prevent this vulnerability.

# Mitre Attack: <https://attack.mitre.org>

Mite Attack is a website that people who work in the cyber security field use as a knowledge base to learn more about some hacking groups, their tactics, previous attacks etc. What’s more, there’s also a database about software that’s used in attacks, description of what it does, techniques and tactics too.

# CVE: <https://www.cve.org>

Common Vulnerabilities and Exposures(CVE) is a database that gets updated daily with most vulnerabilities that happened in the world including a description of the vulnerability, credits to the person who discovered it, versions affected, vendor, product and identification number.

# CWE: <https://cwe.mitre.org/>

Common Weakness Enumeration(CWE) is similar to the CVE website but it has resources and examples of software and hardware weaknesses and vulnerabilities that’s updated by the US Department of Homeland Security. On top of that, the website has the top 25 most dangerous software weaknesses every year with the title of the weakness, a lot of details about it including examples and its rank from last year on the list.

# Youtube: <https://www.youtube.com/>

Youtube is a website that allows free access of a large variety of content ranging from tutorial videos teaching specific things, to teaching full courses. Youtube provides visual learning which can be very helpful for learning to code.It allows for comments and interaction with the people who are trying to learn with the same resources allowing you to ask questions and have them answered by someone who is having the same issues. It is continuously being updated with classes and tutorials by many different creators so if one creator doesn't get the point across there are plenty of others to try.

# StackOverflow: <https://stackoverflow.com/>

Stack Overflow is a platform for asking and answering programming-related questions.Whenever you run into a problem or error that you do not know how to fix stackoverflow usually has a post for troubleshooting that exact problem and if it doesn't then you can make a post yourself and have a community of other coders to help you fix that issue.

# Survey of Real Time Operating Systems (RTOS): <https://engineering.lehigh.edu/sites/engineering.lehigh.edu/files/_DEPARTMENTS/cse/research/tech-reports/2019/LU-CSE-19-003.pdf>

This research paper is published by two senior members of the IEEE. The purpose of this is to survey the performance of Real Time Operating Systems and General Purpose Operating Systems.They go into great detail about WCET(Worst Case Execution Time) comparing all major RTOS used in industry. If you are unfamiliar with RTOS operating systems and how they differ from a normal windows operating system, this paper doesn’t really get into the basics. This paper focuses on systems running in a critical environment with ASICs or other Embedded Systems. The paper goes into great detail on the security of the systems along with how important scheduling and priority inversion can be for WCET.

# Materials Challenges and Opportunities for quantum computing hardware: <https://www.science.org/doi/full/10.1126/science.abb2823>

The purpose of this paper is to go over some of the complexities as to why quantum computing isn’t mainstream in everyone’s PCs. Its main focus is to address how the platform itself is very difficult to handle noise, due to the many particle quantum states. These states that are affected by noise ultimately cause errors in quantum computing algorithms. The paper research materials to potentially combat and reduce the noise that affects these types of systems, and propose ideas that could significantly reduce the problems you may encounter when designing a system for quantum computing.

# Recent advancement in smart grid technology: Future prospects in the electrical power network: <https://www.sciencedirect.com/science/article/pii/S2090447920301064>

This research paper focuses on Smart Grid Technology. This is an ever emerging field due to the complexities to distribute power more efficiently and more sustainable. The research also goes to cover a lot of security issues substations seem to have in the modern era, and greatly affect countries as we speak. Overall, this paper goes into great detail about how Smart Grid technology is going to be forever important heading into the future, and how we can improve the world's energy consumption and continuously give everyone power.

# Multiple Courses to Enhance Students’ Hands-on Practice on Microprocessor Systems: <https://ieeexplore.ieee.org/abstract/document/10187309>

This is a course provided by IEEE to enhance students’ hands-on practice with Microprocessor systems. Hands-on practice is the most important factor for students in Electrical/Computer Engineering. The complexity of each integrated circuit is so overwhelming that most students struggle to grasp all the information in one course. This course is to help students get a better understanding of these systems through a very reputable/knowledgeable source IEEE.

# A Fast and Energy-Efficient SNN Processor with Adaptive Clock/Event-Driven Computation Scheme and Online Learning: <https://ieeexplore.ieee.org/abstract/document/9336327>

This paper is to cover the Spiking Neural Network (SNN) due to the low energy consumption. This paper states how in the past it has not been inspected thoroughly to address the issues it can have properly, nor the best way to actually optimize a system as such. They go into detail about how you can actually use the SNN in a suitable environment for real time energy restrained applications. The research published through IEEE goes into great detail how you can outperform a lot of systems using certain design techniques.