Programming Resources

This resource includes a list of learning tools to enhance your software skills.
Courtesy of Dylan Khudr (Lead Systems Architect at Exactus Energy Inc.)

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Harvard CS50X Course
https://cs50.harvard.edu/x/2020/
"Introduction to the intellectual enterprises of computer science and the art of programming. This course teaches students how to think algorithmically and solve problems efficiently. Topics include abstraction, algorithms, data structures, encapsulation, resource management, security, and software engineering. Languages include C, Python, and SQL plus students' choice of: HTML, CSS, and JavaScript (for web development); Java or Swift (for mobile app development); or Lua (for game development). Problem sets inspired by the arts, humanities, social sciences, and sciences. Course culminates in a final project. Designed for concentrators and non-concentrators alike, with or without prior programming experience. Two thirds of CS50 students have never taken CS before. Among the overarching goals of this course are to inspire students to explore unfamiliar waters, without fear of failure, create an intensive, shared experience, accessible to all students, and build community among students."

freeCodeCamp
https://www.freecodecamp.org/
"Our mission is to help people learn to code for free. We accomplish this by creating thousands of videos, articles, and interactive coding lessons - all freely available to the public. We also have thousands of freeCodeCamp study groups around the world."

Codewars
https://www.codewars.com/
"Codewars is an educational community for computer programming. On the platform, software developers train on programming challenges known as kata. These discrete programming exercises train a range of skills in a variety of programming languages, and are completed within an online integrated development environment."

Codecombat

https://codecombat.com/play/level/dungeons-of-kithgard

"CodeCombat is a multiplayer programming game for learning how to code. See the Archmage (coder) developer wiki for a dev setup guide, extensive documentation, and much more to get started hacking! It's both a startup and a community project, completely open source under the MIT and Creative Commons licenses. It's the largest open source CoffeeScript project by lines of code, and since it's a game (with really cool tech), it's really fun to hack on. Join us in teaching the world to code! Your contribution will go on to show millions of players how cool programming can be."

CodinGame

https://www.codingame.com/ide/puzzle/onboarding

"CodinGame is a technology company editing an online platform for developers, allowing them to play with programming with increasingly difficult puzzles, to learn to code better with an online programming application supporting twenty-five programming languages, and to compete in multiplayer programming contests involving timed artificial intelligence, or code golf challenges."