The Importance of Personal Projects in a Computer Science Degree: How Side Projects Can Boost Your Skills and Career

I started my first programming project in June 2022, during my A-levels…

PythonProgrammer

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A screenshot of one of my first programming projects — Football Pong (coded in Python)

Introduction:

In the fast-paced world of computer science, academic knowledge alone is rarely enough to stand out. While coursework and exams form the foundation of a degree, personal projects can serve as the bridge between theory and real-world application. From boosting technical skills to strengthening your CV or résumé, personal projects are a powerful way to demonstrate initiative and practical expertise in a way that goes beyond the classroom.

How It All Began — My First Programming Project

It all started in the first summer of my A-levels back in June 2022. After spending months learning programming fundamentals in the classroom, I realized that simply knowing how to code wasn’t enough — I wanted to create something of my own. That summer, I dived into my first programming project, a basic GUI (graphical interface) calculator, and that’s when my passion for personal projects really took off.

One of the main reasons for this was to familiarise myself with GUI programming in Python through the use of the Tkinter module. That same summer we then proceeded to learn about it in school and I was already ahead of the game therefore. The school learning enhanced the development of this project as well and taught me tips and tricks that I eventually ended up integrating into this project as well. I knew it would become useful in my studies as well as I did end up utilising it in my NEA (Non-exam assessment) project [better known as coursework] at the end of A-levels in Year 13 (April 2023). I have utilised the Tkinter module many times thereafter in Python, it’s always useful to knock up a quick GUI for any standalone application, and I’ve even done a tips and tricks video regarding it on my Youtube channel including 3 features I didn’t even know about before I recorded the video.

Constantly Generating New Ideas to Challenge Myself

Ever since that first project, I’ve constantly been thinking of new ideas to challenge myself and expand my programming skills. From building a YouTube playlist enhancer to developing my own spin-off of Chess called Chest Chess or even a more functional tool like a Truth Table Generator, personal projects have allowed me to experiment with new technologies and frameworks, whether it’s mastering JavaScript or diving deep into Python libraries like Tkinter and Pygame. These projects not only help me stay engaged but also push me to improve with each iteration. Small programming problems like the ones found on Leetcode.com help to brush up my skills as well.

The Impact of Personal Projects on My CV/Resume

One of the most tangible benefits of working on personal projects is how they’ve helped me build a strong résumé. By showcasing my projects on my CV, I’m able to give potential employers a concrete idea of my technical skills and problem-solving abilities. For instance, when applying for internships or part-time roles, my personal projects — such as a football pong game and a Python-based GUI calculator — have consistently sparked interest during interviews. These projects show initiative, creativity, and self-motivation, qualities that can really make you stand out from the crowd.

How Personal Projects Make You Stand Out

In a competitive field like computer science, personal projects are often what make candidates stand out. While many students rely solely on their coursework, personal projects show that you’re passionate about your craft and willing to go the extra mile to learn new things. My wide range of projects, from game development to browser extensions to small scripts that apply the Computer Science theory that I’ve learnt, showcases my ability to work with different programming languages, frameworks, and problem-solving techniques. It gives employers a much broader view of my skills, compared to just listing courses and grades

Personal Projects as a Potential Side Hustle

Although I’m not earning much from my personal projects just yet, I see tremendous potential for them to evolve into a profitable side hustle. In the future, I could turn some of my projects into freelance work or sell them as digital products. Many developers have managed to monetize their open-source projects or build passive income streams through apps, and I’m confident that with enough dedication, my personal projects could follow a similar path. The key is to keep building and refining — one project at a time.

General Advice for Students Starting Personal Projects

For students just starting their programming journey, my advice is simple: start small and focus on what interests you. Whether it’s a simple Python script or a small web app, personal projects don’t have to be grand in scale to be impactful. The key is consistency and iteration — each project will build upon the last, adding to your technical portfolio. Don’t forget to showcase your work on platforms like GitHub; it’s an easy way to demonstrate your growth and commitment to learning. In the end, personal projects will not only help you become a better programmer but also give you the edge in your career.

Conclusion: The Ongoing Importance of Personal Projects

Looking back, personal projects have been a cornerstone of my computer science journey. They’ve not only helped me develop practical skills and build an impressive résumé but also ignited a sense of curiosity and drive that I carry into every new project. Whether you’re just starting out or looking to push your limits, personal projects are an essential part of growing as a developer and standing out in today’s competitive tech landscape.

What personal projects have you worked on, or are you thinking of starting? Share your experiences in the comments — let’s inspire each other to keep growing and learning.

Relevant Links

Python Tutorials Website

Link to Portfolio Page

Python Youtube Channel

Python Programmer Instagram

Python Programmer X account (Twitter)