

Code is the New Black

Why trade your Manolos for Machine Learning when you can have both?

```
1 #include <iostream>
2 using namespace std;
3
4 int main()
5 {
6     cout<<"Hello World"<<endl;
7 }
```

Sweet. Pure. Nurturing. These descriptions are begging to be associated with women. It makes me gag. I prefer bitchy and intimidating, conveniently I am usually associated with these traits.

As an infant, my crib had blue and white gingham sheets. A conscious choice on my mother's part. But, heteronormativity got the best of her when she later swapped the blue for a stereotype-consistent powder pink. Despite her surrendering to feminizing a creature who can only eat, sleep and cry, my mother still sought to raise me on her own terms, not how society deems a girl should be raised. In elementary school, I felt empowered by my decision to wear sneakers from the boy's section rather than the girl's. I had not one but two dinosaur themed birthday parties. I wanted "scary dinosaurs" to be exact, no cutesy *Land Before Time* bullshit.

Trying to find the balance of accepting and opposing femininity adds to the complexities of being a woman. I integrated masculine traits to assert my power, and often I would succeed. To make an impact on the world, I knew I had to be relentless. Even if it

meant forgoing any compliments on my patience or softness. By taking the aspects of femininity, such as beauty and fashion, and pairing them with my headstrong personality I knew I could be unstoppable. Until I wasn't.

Robotic typeface: red, blue, green, and white. Contrasting a stark black background. Surely (in an attempt) to combat the inevitable eye problems that follow years of staring at a computer screen's harsh glare. Every line of code is integral to the successful compiling, building, and running of the program. The code snippet shown here in Sublime Text, a free text editor, utilizes the menlo regular font. Easy to read, yet unsettling enough to make anyone devoted to the refined Times New Roman run for the hills. The simplest and most iconic program in C++ is Hello World. After including the necessary libraries, the main compiler executes a single command. Print the words Hello World to the console (cout meaning "console output"). Type, save, run and in precisely one-fifth of a second those two little words are at the bottom of the screen indicating success. One small step for a beginner, one giant leap for becoming a computer scientist. Despite the simplicity, looks are deceiving. A missing semicolon here, an open brace without a closing brace there, all sorts of warnings and errors are ready to break the code. The headache and frustration of trying to find the syntax rules that were violated is all worth it however, when the program finally executes. The jolt of euphoria when the compiler reads every line and performs exactly how you intended is unlike any feeling. Hello World.

Prior to my first computing course, I had no experience in a computer science class or with programming. It was the first day of classes fall semester of my sophomore year. Dragging myself out of bed on my first alarm, I prepared to look my best (it's the first day

after all). I apply makeup which consists of over fifteen steps to achieve the #wokeuplikethis look. As for my outfit, I find my favorite pair of Paige Denim jeans; skinny fit, medium wash, and light distressing. To balance my casual bottoms, I choose a flowy blush-pink blouse that says “fashionable yet professional”. To top it off, my Tiffany bracelet and a spritz of Chanel; the epitome of femininity. The sun had not fully risen before I began my walk across CU Boulder’s campus to attend my 8 a.m. recitation for my introduction to computer programming class. Crossing over Varsity Lake, past the University Memorial Center, towards the concrete jungle (albeit unsightly) engineering center. The classroom was small, but hardly empty when I walked through the door.

“I think you’re in the wrong room.”

The words themselves were simple, but they reflected a reality of what I thought was decades past. My body electrified with embarrassment, trembling from my chest to my fingertips. One young man had single handedly forced me to question my place in this class, major, and career. A comment that slapped me back to a not-so-ancient trope. Men are better at math and science.

You may not recognize Ada Lovelace by name, her contributions largely ignored by modern historians, but she is a primary figure in the history of women’s involvement in computer science. A quick google search results in paintings of a beautiful woman in traditional Victorian garb. Extravagant hoop skirts, flashy feather hair accessories, and a serene smile.



Daughter of Lord Byron, she was never expected to participate in academic disciplines as a woman. However, her passion for math and science led her to seeing that machines can be used for more than number crunching. Ada Lovelace is the first person to develop an algorithm that delves deeper than simple calculation. She developed the first computer programming language, aptly named *Ada*, which was used by the Department of Defense. Unsurprisingly, her legacy is muffled behind the big names who created programming languages which rendered *Ada* obsolete, pushing her legacy deep into dusty history books. Pushing women to the sidelines is commonplace to this day in technology, preventing women from even considering pursuing a career in the field. A study by Joyce Ehrlinger

highlights that women do not view themselves as similar to a “typical” computer scientist, whereas men strongly identified with this type of student.

I caught the boy’s gaze, a gloating slim-built kid. An unfortunate haircut, or lack thereof, and a black hoodie in serious need of cleaning. Probably resentful towards women due to his many rejections (or his own embarrassment for not taking the chance and asking a girl out on a date). *What a fucking prick*, I thought to myself. Nevertheless, the comment gave me pause. I remembered the effort I had put in with my makeup and outfit. My chosen aesthetic represented who I was, and to him I represented a woman that did not fit the idea of who would be in that classroom that morning. My ability was hindered by how someone perceived me visually. I could have let this interaction define my boundaries, limiting my potential. The current running through my body had changed course; a spark of determination had emerged.

At the Denver Contemporary Art Museum, I saw an exhibit by Guido Ignatti titled *Setup*. Potted plants stood on a stage under harsh fluorescent lamps. The pots that held the roots and the dirt were shattered, yet the plants stood firm. Some, like me, stand before the installation with pensivity. Others mutter “well I could have done that”. This contrast of perspectives intrigues me. Instead of judging the individuals who clearly are not modern art aficionados, I try to understand why experimental pieces, like Ignatti’s do not impact these people. This piece has no use for them. Rather than think critically what is in front of them, they decide they do not understand and don’t care to try, thus they move on. In contemporary art, the usefulness of a piece has an immediate impact on how the viewer perceives it and how it can impact the viewer’s life. I continue through the museum, with

the realization that if one does not understand, aesthetically, what is going on in front of them then they are turned off. The viewer feels shut out.

The sound of fingers furiously typing across a keyboard is a cacophonous symphony. A race against an imagined clock, a test against the invisible code-breaker, writing code is both incredibly satisfying and inexplicably overwhelming. Imagine those kids in high school who exuded an almost-neurotic intensity, rhythmically tapping their pencil against a desk as their eyes scan across the words of an exam. The rooms of the engineering center's computer science classrooms are pulsing with urgency and anxiety. Where many would likely try to escape as quickly as possible, we thrive in this environment. My favorite room is the Computer Science Education Lounge. Through double doors, is a large room filled with broken-in leather sofas, swiveling office chairs, and whiteboards scribbled with an array of numbers, letters, and symbols. The room is abuzz with conversation, typing, and energy. Some sit silently with their headphones on, others go back and forth dissecting an algorithm. The occupants range from freshman to graduate students, teaching assistants to tenured professors. The time could be mid-afternoon or 2 o'clock in the morning; it is difficult to tell considering there are no windows here. My first visit here, I was surprised. I had never seen such a diverse range of individuals collaborating on various projects in my time in college. This room, in all of its dingey glory, became my nirvana. A place of focus, motivation, and acceptance.

Technology is inescapable in today's society. Smartwatches, artificial intelligence tech like Amazon's Alexa, even simple applications on our smartphones are able to gather billions of pieces of data of us. It cannot be denied that the development of these

technologies has added unprecedented convenience to people's lives; but at what cost? Department stores, for example, are dwindling as people now shop almost exclusively online, able to quickly compare styles and prices in a fraction of a second. The new tone of this generation can be boiled down to "adapt or die". But there is a sinister undercurrent of this idea. The possibility that technology will become so powerful to take over humankind is a fear described as the experiential uncanny. The notion that computers and technology have agency, is unsettling. The unprecedented nature of technology parallels the entrance of women into the technological sphere. There are obvious benefits of a more inclusive, diverse group of people developing technology that affects all of us. Yet, the environment has not historically been female-friendly, and progress is slow to promote women's involvement in computer science. Perhaps the root of this slow progress is also fear. Fear of change, from those that seek tradition in the field. Fear of initiating, from those who feel they cannot and do not belong. Fear that by acknowledging the benefits of progress, we are losing something of greater value rooted in history. But it is neither here nor there, for as I mentioned earlier, this generation is defined by the same mindset; adapt or die.

Many people only see my passion as a job that will earn a big paycheck at the end of the year. Speaking to my father about computer science, he never fails to mention how "it is a great major that will earn you serious cash". Though I know he means well, and he may very well be right, this idea that my passion is only a means to a financially stable end minimizes what I do. What millions of people do. This speaks to a greater problem in the university system. Students pay thousands of dollars for an education, to get a job, in the hopes of earning a higher income. What has happened to the joy of education? This

question is null. I see students every day who choose majors that give them little joy, for the sole purpose of a greater salary one day. Computer science has the power to invoke greater love for learning. The stereotype of the introvert behind a laptop needs to be left behind.

Computer scientists are artists, designers, photographers, software developers, mathematicians, professors, business professionals, and so much more. Computer scientists are the future.

My first moment in computer science put me face to face with fear. I was explicitly and implicitly doubted. Was I judged by my appearance? How people inherently view code negatively if they are not familiar with what it looks like? Was I judged by my gender? How computer science is seen as a males-only club? Despite my general lack of classically feminine personality traits, I still was an outsider. This defining moment in my life, despite the initial setback, has led me on a path greater than I could have ever imagined. The community in computer science (besides that one guy. Prick.) can be astoundingly inclusive. People are always willing to help, if you seek out the right individuals. I spent countless hours with course assistants and teaching assistants working to understand computers, coding, and all aspects of technology. What I found while working so diligently, was my passion and drive for computer science. I experienced my fair share of struggles and failures, but this never hindered me. There was an endless amount of material and I could not wait to learn it and apply my knowledge to projects. Week by week, I gained insight into the world of technology and my love for this subject grew every day. How can code be beautiful? Code is beautiful in its diversity. The ability to build software that can impact millions, even billions, of people across the globe is incredible. The opportunity to

build, create, and collaborate in this field is a privilege. I did not know what I was capable of before I was challenged by that boy in my class. Now, I seek to defy expectations, and defy odds.