# Scalping in the Digital Age

Almost all of the problems that existed in the material world now exist in the digital world. Technology has replicated human behavior at a street level. Take for example the age-old trade of ticket scalping. This is when someone can acquire a block of tickets for a high-demand public event. It could be a music concert,a regular season sporting event, or, the scalper's equivalent of a year-end bonus, a dramatic playoff rivalry in hockey, basketball, or football. Take your pick. Scalping goes on all over the world. In America it’s the NFL. in Canada it’s the NHL. In Europe it’s soccer.

A reasonable debate about the freedom of markets could ensue here under the banner of Adam Smith or Ayn Rand, but it’s the sports franchises and concert event organizers who want it stopped. It’s the musicians and the athletes who want it stopped.

It’s the coaches and venue owners who want it stopped. They want the true fans to be able to enjoy the event. It’s part of the pleasure of putting on massive spectacles of human effort and talent and stamina. It’s part of the joy of doing what they do.

Back in the day, before computers changed everything before the internet and high-speed networks changed everything, a professional scalper had to have contacts. This was usually somebody in the sales office of the coveted event. Scalping has always been frowned upon. Sports franchises and music event organizers have done their best to suppress the scourge of scalping, but it’s proved almost impossible. Where there is a profit there is perseverance, and where there is perseverance there is very often success. A scalper used to have to stand on the street in front of the event location — hockey arena, football stadium, or concert venue — in the days leading up to it. They’d call out to the crowds like hot dog vendors. *Tickets here. Get your tickets.* When the police showed up they’d quickly walk away. All that changed in the digital age.

## Cyber Security and Scalping

Scalping is now an issue for cybersecurity experts. Scalpers use automated bots or software that bangs away at the purchasing system as rapidly as machine gun fire. They grab up excessive amounts of the limited items before anybody else can get into the queue, overcoming security measures and built-in restrictions, a kind of blitzkrieg, a shock and awe attack that dominates the system. They secure a high quantity of sought-after limited availability merchandise or tickets in the blink of an eye. And the general public that tried to buy the tickets online? They now have to buy scalped tickets, except it’s not that guy on the street anymore. It’s another website or the classified section of an online posting board.

And the original sale price? It’s increased by anywhere from three to ten times depending on the demand for the event.

And what about us, the poor slob wanting to impress their girlfriend or boyfriend, the father wanting to impress his son with playoff tickets? Scalping is a scourge. Fortunately, the digital version is more defensible than the street version.

But even the cost of combating something has to be borne by somebody, and that somebody is once again the consumer. People in the ticket-selling business have had to employ extensive security like CAPTCHAs, purchase limits, and bot defense systems. Some jurisdictions have implemented legislation and regulations to inhibit scalping, but it’s not universal. There are still places that go with Adam Smith and Ayn Rand. The consumer has to take some responsibility as well. There are people with limitless disposable income who don’t mind paying the high prices of a scalper if it ensures they get what they want, a kind of credit card caste system with a favorable color dot on your forehead.

## Artificial Intelligence and Machine Learning

The most promising technology to stop blocks of tickets from getting into the hands of scalpers is machine learning (ML) and artificial intelligence (AI). Algorithms can be written that adapt themselves and grow into behavioral analysis tools that make it near impossible for bots to digitally mingle among legitimate online consumers. Click patterns, typing speed, and other *tells* could easily be ferreted out by AI systems. Write and deploy algorithms unaided by AI and ML could detect them, but the bot coders would just adapt and send the security coders back to the whiteboard, but ML supported algorithms that grow and adapt on their own, aggregating enormous quantities of data to form pattern recognitions, are too much for even the most persistent scalpers and their bots.

There’s no bot or security hack concocted by digital scalpers that couldn’t be detected by AI and ML. AI algorithms can dramatically improve CAPTCHA mechanisms to eradicate bot infiltration. ML models can assimilate outrageous amounts of data to easily determine who is a human user and who is a bot. Add ML and AI to real-time monitoring of website traffic and any anomaly in volume or speed would be immediately detected. Security systems could be coded to be triggered at the moment of bot detection. The companies that specialize in ticket sales only as agents for sporting events and concerts and limited availability products could easily deploy collaborative AI networks that shared threat intelligence to create a kind of economy of scale the digital scalpers could not compete with.

When the day arrives when you have a fair chance at getting a couple tickets to a high-demand event, if you’re patient and persistent, realize that it’s probably the result of ML and AI. As for the future of scalping, if the scalpers don’t invest as much in their technology as the industry is going to invest in preserving the fairness of ticket purchasing, it may finally be a thing of the past, at least at the level of block purchasing that has hampered a fair chance of attendance for true fans. There will probably always be the loan operator with a half dozen tickets for sale at inflated prices on Craigslist. But that’s just the world we live in.