

Machine Money: How Algorithmic Trading and AI Investing Are Changing Who Gets Rich

By Joe Giler

Table of Contents

1. Introduction: Read This Before You Automate a Single Dollar
2. Chapter 1: The Rise of Machine Investors — How AI Went From Wall Street to Main Street
3. Chapter 2: Algorithmic Trading Explained — What It Is, How It Works, and Who It's Actually For
4. Chapter 3: The Retail AI Trading Opportunity — What You Can Actually Access Now
5. Chapter 4: Python Basics for Trading Bots — Beginner-Friendly Coding for Financial Automation
6. Chapter 5: No-Code Trading Automation — Building Strategies Without Programming
7. Chapter 6: Backtesting Your Strategy — Testing Against History Before Risking Real Money
8. Chapter 7: AI Stock Screeners and Signals — Tools, and Why Most Signals Are Worthless
9. Chapter 8: Sentiment Analysis Trading — Using AI to Read News, Social Media, and Earnings Calls
10. Chapter 9: Options With AI Assistance — Understanding the Risk Before the Setup
11. Chapter 10: Crypto Bot Trading — 24/7 Markets and What That Really Means
12. Chapter 11: Risk Management for Algorithmic Systems — The Only Chapter That Keeps You Alive
13. Chapter 12: Portfolio Construction With AI — Beyond Picking Winners
14. Chapter 13: The Hybrid Approach — Where Machines End and Judgment Begins
15. Chapter 14: Building Your Machine Money System — Tools, Accounts, Capital, and a Launch Checklist
16. Conclusion: The Machine Is Not the Edge
17. References and Further Reading

Introduction: Read This Before You Automate a Single Dollar

There is a particular kind of quiet that settles over a room at two in the morning when a program you wrote is trading your money and you are not sure whether it is working. The screen updates. Numbers move. You did not press the button — you wrote the thing that presses the button, and now it is pressing the button without asking you, over and over, in a market that does not know your name and does not care what you were hoping would happen.

That moment is the real subject of this book. Not the code. Not the strategy. The moment when a machine is acting on your behalf with your savings, and you have to live with the quality of the thinking you did beforehand.

Most books about algorithmic trading start with excitement. This one starts with a warning, because I would rather you finish this book with your money intact and your curiosity satisfied than start a system next week that quietly takes it apart.

The Disclaimer, Written Like I Actually Mean It

This book is education. It is not financial advice, investment advice, tax advice, or legal advice. I am not your financial adviser, I do not know your situation, and nothing in these pages is a recommendation to buy, sell, or hold any security, derivative, cryptocurrency, or other instrument.

I want to be more specific than the boilerplate, because boilerplate is easy to skim past.

- **You can lose money doing this. You can lose a lot of it. You can lose all of it.** If you use margin, leverage, futures, or options, you can in some cases lose more than you deposited and end up owing your broker.
- **Nothing in this book has been tuned to your circumstances** — your income, your debts, your time horizon, your tax situation, your dependents, your risk tolerance, your country's regulations. Those things are not decoration around a strategy. They *are* the strategy. A system that is reasonable for a 55-year-old with a paid-off house and a pension is reckless for a 24-year-old with credit card debt, and vice versa.

- **Consult a licensed financial professional** before you commit real capital to anything you learn here. Someone who is legally accountable to you, who has looked at your actual balance sheet, and who can tell you "no."
- **Never risk money you cannot afford to lose.** Not rent. Not tuition. Not the emergency fund. Not money that has a job to do in the next five years. If losing the entire amount would change how you live, it does not belong in an automated trading account.

I will not tell you that a strategy "makes 40% a year." I will not show you a backtest curve that climbs from the bottom left to the top right. There are no invented performance figures in this book, no fabricated track records, and no case studies about a fictional trader who quit his job. Those things sell books. They also get people hurt, and I would rather have your trust than your applause.

The Base Rates Nobody Puts on the Sales Page

Before we talk about how any of this works, you need to know what happens to most people who try it. Not because I want to discourage you — I am writing a whole book about it, so obviously I think it is worth understanding — but because **you cannot make a rational decision about an activity without knowing its base rate**, and the base rates in active trading are genuinely unkind.

Here is the shape of what regulators and academic researchers have found, repeatedly, across different countries, different decades, and different market structures. I am stating these as the well-documented findings they are, without pretending to a precision I cannot verify from memory:

- **The large majority of active retail traders underperform a simple, boring, low-cost broad-market index fund held over the same period.** Not slightly underperform. Underperform badly enough that the sensible comparison for any strategy you build is not "did it make money" but "did it beat doing nothing, after costs, after taxes, after the value of my time."
- **A substantial share of active retail traders lose money outright** — they end the period with less than they started, in nominal terms, before you even adjust for inflation or opportunity cost.

- **The more frequently people trade, the worse the average outcome tends to be.** Turnover is the enemy. Every trade is a small tax paid to the market's plumbing, and enthusiasm is expensive.
- **Leverage and derivatives make all of the above worse, not better.** Regulators in multiple jurisdictions have required brokers to disclose the share of retail accounts that lose money on leveraged products precisely because that share is so uncomfortable. Leverage does not improve a strategy. It amplifies whatever the strategy already is — and if the strategy is a coin flip with costs attached, amplifying it just gets you to zero faster.
- **The winners are not evenly distributed.** A small minority of participants earn a disproportionate share of the gains, and it is very difficult to tell, from a short track record, whether a given winner is skilled or simply the survivor of a large number of coin flips. This includes you. Especially you, after a good month.

I am not going to quote a specific percentage at you, because half the numbers floating around the internet are misattributed, cherry-picked from one broker's data in one year in one country, or invented entirely. The *direction* of the finding is what matters and the direction is not in dispute: **active trading is a negative-expectancy activity for the typical participant, and the typical participant does not know they are the typical participant.**

Sit with that for a second. Everyone who has ever lost money at this believed, on the day they funded the account, that they were the exception.

Why Automation Is Not a Shortcut Around Any of This

Here is the seductive thought, and I want to name it clearly because it is probably somewhere in your head already: *"Sure, most traders lose. But most traders are emotional. They panic. They revenge-trade. They hold losers and cut winners. A bot doesn't do that. A bot follows the rules. So a bot fixes the human problem."*

That argument is half true, and the half that is false is the half that costs money.

It is genuinely true that automation removes emotion from *execution*. A program does not get scared at the open. It does not double down because it feels owed. It does not skip the trade because the news made it nervous. If your rules are good, mechanical execution of those rules is a real and underrated advantage. I am not going to pretend otherwise.

But look at what that argument quietly assumes: **that your rules are good.** Automation does not evaluate your idea. It does not know whether your entry signal reflects a durable feature of markets or an accident of the two years of data you happened to test on. It has no opinion. It simply does what you said, faithfully, at scale, at speed, all day, every day.

A bot executes a bad idea perfectly. That is the sentence to remember. Automation is an amplifier, not a filter. It takes whatever you fed it and multiplies its effect on your account.

And there is a second, subtler cost that almost nobody mentions. Emotion is not purely a bug. Hesitation — that queasy feeling that stops an undisciplined trader from clicking "buy" on the fifth revenge trade of a bad afternoon — is a crude, unreliable, but occasionally life-saving circuit breaker. It is the last thing standing between a lot of people and a catastrophic day. When you automate, you remove that circuit breaker, and if you have not deliberately replaced it with a *designed* one — hard risk limits, kill switches, position caps, daily loss limits — then you have not upgraded from a human trader to a machine trader. You have downgraded from a human with brakes to a machine without them.

So the honest formulation is this:

- Automation **does not reduce risk.** It reduces *hesitation*.
- Reduced hesitation means faster action, in both directions.
- Faster action on a good idea is leverage on your edge.
- Faster action on a bad idea is leverage on your mistake — and it runs while you sleep.

What This Book Honestly Offers

Given all of that, what is the point of reading on?

Three things, and I want to be precise about them so you can hold me to it.

First, understanding. Algorithmic and AI-driven trading is now a dominant force in how prices are formed in modern markets. Even if you never write a line of trading code, the machines are on the other side of every order you place. Understanding what they do, what they are good at, and what they are structurally blind to makes you a better-

informed participant in the market and a much harder person to sell nonsense to. That value is real and it does not require you to trade at all.

Second, method. If you do decide to build something, there is a right way and a wrong way to go about it. The right way involves defining your universe before your signal, sizing before entries, risk limits before optimization, honest cost modeling, out-of-sample testing, tiny position sizes for a long time, and a written plan for when you will shut the thing off. This book will teach you that discipline in detail. It is slow, unglamorous, and it is the only version of this that has ever worked for anyone.

Third — and I consider this the most valuable thing here — how to know when you should NOT. The most profitable decision most readers of this book will ever make is the decision not to deploy. Not to trade the strategy that looked great on a curve-fit backtest. Not to add leverage after a good quarter. Not to trade at all, and instead to automate the boring, deeply effective thing: regular contributions into a diversified low-cost portfolio, and then going outside. If this book talks you out of trading, it has done its job better than if it talks you into it.

Who Should Close This Book Right Now

I mean this sincerely. Some of you should stop reading, and I would rather tell you now than take you on a 300-page ride to the same conclusion.

Close this book if you are using money you need. If the capital you are planning to trade is rent, food, tuition, medical costs, your emergency fund, or a down payment you are counting on within a few years — you are not investing, you are gambling with a deadline, and deadlines are how gamblers get destroyed. The market has no obligation to cooperate with your timeline.

Close this book if you are looking for a passive income machine. An automated trading system is not passive. It is a small, temperamental, unregulated software business that you personally operate, with real money at stake, in an adversarial environment, and it requires continuous monitoring, maintenance, and honest self-assessment. The word "passive" is doing an enormous amount of dishonest work in the marketing you have seen. Automated does not mean unattended.

Close this book if you are not willing to do the risk math. Not "willing to skim the risk chapter." Willing to actually sit down and calculate what a losing streak does to your

account, what your maximum tolerable drawdown is in dollars — not percent, *dollars*, because percent does not keep you up at night and dollars do — and what you will do if the system loses money for six straight months. If arithmetic bores you and you were hoping to skip to the code, you will lose money, and you will lose it in a way that will feel like bad luck but will not be.

Close this book if you are in a hurry. Urgency is the most expensive emotion in finance. Anyone who needs the money to work *fast* takes risks that would look insane to them in a calmer year. If you are behind on where you thought you would be in life — and most of us are, at some point — trading is the worst available tool for catching up, because its variance is highest exactly when your tolerance for variance is lowest.

Still here? Good. Then let's do this properly. Let's start with how the machines got here in the first place — because the history explains the opportunity, and it explains the trap.

Chapter 1: The Rise of Machine Investors — How AI Went From Wall Street to Main Street

To understand what you can and cannot do with an algorithm today, you have to understand who else is in the room and how they got there. The history of automated trading is not trivia. It is a map of where the money went, and — more usefully for you — a map of where it has already been taken.

The Pit: When Markets Were Made of People

For most of the history of organized exchanges, a market was a physical place full of shouting humans. The floor of an exchange was a crowd of specialists, market makers, brokers, and locals, standing in a pit, using hand signals and voices to negotiate prices. If you wanted to buy shares, your order traveled through a chain of people: you called a broker, the broker called the firm's floor clerk, the clerk handed a paper ticket to a floor trader, the floor trader shouted into the crowd, and eventually a fill came back up the chain.

That system was slow, opaque, and enormously profitable for the people standing in the middle of it. The spread — the gap between what a buyer paid and what a seller received — was wide, and it was wide because information was scarce and access was privileged. The people in the pit were paid handsomely for a service that amounted to *being physically present where the prices were*.

Everything that has happened since is, in a sense, the story of technology attacking that privilege, one layer at a time — and of new privileges being invented faster than the old ones were destroyed.

The Wires Take Over

Electronic order routing and electronic exchanges began pulling the trade off the floor and into the network. Instead of a person shouting, a matching engine — a computer program — took in buy and sell orders and paired them according to strict rules, typically by price and then by time of arrival.

The consequences were enormous and mostly good for ordinary investors. Spreads collapsed. Commissions fell. The gap between what an institution paid to trade and what a retail customer paid narrowed dramatically. If you bought a stock in 1985 and bought the same stock today, the frictional cost of the transaction is a small fraction of what it was, in real terms. That is one of the great unheralded consumer wins of the last several decades, and it happened because machines are cheaper than shouting men.

But note what else it did: **it turned trading into a software problem.** Once the market lived inside a computer, the people best equipped to profit from it were no longer the people with the loudest voices and the best floor position. They were the people with the best code.

The Quants Arrive

As markets electronified, a different species of firm grew up around them — the quantitative fund. The pitch was simple and, at the time, radical: rather than having a star portfolio manager whose insight was mysterious and unrepeatable, you build statistical models, you test hypotheses against historical data, and you let the models allocate capital according to rules. You hire physicists and mathematicians rather than salesmen. You measure everything.

Quant funds were among the first organizations to take seriously the idea that **an investment process could be an engineering artifact** — something built, tested, versioned, monitored, and improved, rather than something that lived in one person's intuition. That idea is the intellectual ancestor of everything in this book. When you sit down to define a universe, a signal, and a risk limit, you are doing a homegrown, small-scale version of what those firms professionalized.

What you should also take from the quant era, though, is a cold observation: **these firms are enormously well-resourced and they have been at this for decades.** They employ people who have spent their entire careers on a single narrow question. They buy data you have never heard of. They have compliance departments, risk committees, and infrastructure teams. If you find a simple, obvious statistical pattern in liquid public market data using free tools, the overwhelmingly likely explanation is not that you found something they missed. It is that you found something that does not survive costs, or does not survive out-of-sample, or has already been arbitrated into irrelevance.