

[hoiboy.uk](http://hoiboy.uk) - Using AI to build trading tools.

## SECTION 0 - Open (~4 min)

### Slide 1 - Title

**ON SCREEN:** Using AI to build trading tools. (subtitle, small) *The honest version.*

**Cover:**

- Some of you asked me about using AI for trading
- Took me a whole year: automated trading system + its own backtester
- Who I am, what I'm not, my AI journey
- The honest version: what worked, what broke, what I learned

### Slide 2 - Who I am

**ON SCREEN:** My name is Hoi. Curious by nature. Trader in the making.

**Cover:**

- Hoi. Swing trader + engineer, ~20 years in IT, data centres, infrastructure
- Built a full automated swing-trading system with AI
- Plus an open-source harness to keep it honest (real money on the line)
- Today: what works AND what breaks

### Slide 3 - What this talk is (and isn't)

**ON SCREEN:** AI is NOT a crystal ball.

**Cover:**

- This is NOT "AI picks winning stocks for you"
- It IS a tool for building the machinery around your trading (and a warning where it bites)
- Peer group, not advice. Sharing what I built, not what to trade

### Slide 4 - The setup: AI is forgetful (numbers kept on purpose)

**ON SCREEN:** AI has serious problems. It's forgetful.

**Cover:**

- Important one, explains the whole talk why AI hallucinates. Context window limitations
- Think short-term memory. Measured in tokens (1k tokens is roughly 750 words)
- Was 200k (2-3 books). This year: 1 million (7-9 books)
- Fills up faster than you think, and a chunk gets wasted on it searching around
- As it fills, it starts making things up... confidently. That's hallucination
- Old models went wrong at 85-90% full. Even the big one drifts at half to two-thirds

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- The longer the chat, the less you can trust it. That's why I lean on guardrails + a harness
  - Token wastage factoring; searches, corrections, exponential deterioration when context window fills
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## SECTION 1 - What is AI, really (~6 min)

### Slide 5 - Section divider

**ON SCREEN:** What is AI - really?

**Cover:**

- Quick reset: almost everyone gets this wrong
- And that's why most people aren't using it to its full potential

### Slide 6 - The three eras

**ON SCREEN:** Prompt -> Agent -> Harness

**Cover:**

- PROMPT: you type, it answers. Most people stay stuck here
- AGENT: uses tools, takes actions for you. More a company thing, no human in the loop
- HARNESS (now): AI wrapped in process + guardrails. Reliable, not just clever
- Industry is moving from "clever" to "accountable"
- Hold onto that word: harness. Spine of the whole talk

### Slide 7 - What it really is (merged: brain + dice)

**ON SCREEN:** It is not a brain. It rolls a weighted dice.

**Cover:**

- It doesn't "know" or "think". It's a probability machine
- Every answer: a weighted dice roll picking a likely next word
- Same dice, different roll. Same question twice, two different answers
- Trading problem: two AIs, two answers. Which one's right?

### Slide 8 - Deterministic vs probabilistic

**ON SCREEN:** Probabilistic vs deterministic.

**Cover:**

- Deterministic: a spreadsheet. Same answer every time. That's why you trust your P&L to it
- The AI doesn't. Same question, different answer

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- You'd never run your accounts on a slot machine. That's the gap to manage

### Slide 9 - The demo trap

**ON SCREEN:** The demo trap.

**Cover:**

- Why demos dazzle and real use disappoints
- The demo was take 17 (they filmed the good one). Your live account runs take 1, every time
- Why most company AI projects quietly fail
- Same trap as the influencer selling the one signal that rules them all

### Slide 10 - The fix

**ON SCREEN:** A harness narrows the cone. (*image: cone diagram*)

**Cover:**

- You can't make the AI deterministic because then it's no longer AI
- You narrow what it can do and point it at your target
- The AI stays unpredictable. The outcome you care about becomes dependable
- Walk the cone: wide and wild without, tight and aimed with
- It's a hybrid: governance, rules, little scripts forcing the bits that matter
- My example: scripts that block em-dashes + the give-away AI words
- All AI ships with a general harness already. We build our own on top

[*Image: assets/concept-cone-variance.webp*]

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## SECTION 2 - Can it trade for you (~5 min)

### Slide 11 - Section divider (+ introduce Robinhood)

**ON SCREEN:** Can it trade for you?

**Cover:**

- The question everyone came for. Can it? Yes. Should you? Different question
- Plenty I can do that I know I shouldn't... and sometimes still do. Human nature
- Timely: Robinhood just opened to AI agents (research, place trades, manage your account)
- Park it. Coming back to it later as the worked example

### Slide 12 - The reframe (merged: tool + the grind)

**ON SCREEN:** AI is a tool, not a tipster.

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**Cover:**

- It won't predict the market
- It will let one person build the machinery: scanners, backtesters, dashboards, alerts
- Brilliant at the grind: mountains of data, drafting + testing code, repeatable jobs
- I hope everyone here wants to LEARN to trade, not wait to be told when to get in and out
- You take the lead. Don't blindly follow

**Slide 13 - What it can't do**

**ON SCREEN:** What AI can't do well.

**Cover:**

- It can't decide for you. Not good at important decisions
- Big task: it skims and quietly drops detail. Long chat: forgets, fills the gaps with confident nonsense
- Picture a very confident junior, wrong with total conviction
- Forgets its own reminders + schedules. You have to build the check-and-nudge scripts in
- Don't let AI lead you. You lead it

**Slide 14 - The honest law**

**ON SCREEN:** AI multiplies what you already are.

**Cover:**

- It won't make you a good trader. It multiplies what you already are
- Know your stuff: it speeds you up. Don't: it speeds up your mistakes (with a smile)
- The years of graft are what make the AI useful in the first place
- Great learning tool too, if you use it that way

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**SECTION 3 - What I built (~9 min), the heart of the talk**

**Slide 15 - Section divider**

**ON SCREEN:** So I built an automated trading platform with AI.

**Cover:**

- Enough theory. Here's the real thing

**Slide 16 - The system (+ honest live status), LIVE DEMO**

**ON SCREEN:** auto\_pb\_swing\_trader

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**Cover:**

- One sentence: finds support-bounce setups, backtests years of history, trades + manages through Interactive Brokers with hard stops
- Backtested signals + hands-off management, instead of eyeballing charts all day
- Honest status: live but deliberately FLAT (missed the last bounce, waiting for my setup, paused to fix bugs)
- Discipline, not a track record. No P&L today
- LIVE DASHBOARD DEMO here

**Slide 17 - Where it started**

**ON SCREEN:** It began in a spreadsheet.

**Cover:**

- Before any of this: a Google Sheet. A few years trading by hand first
- The spreadsheet worked out what data + calculations actually mattered
- That blueprint made the big build possible
- Don't skip the fundamentals to chase the shiny tool
- (Can show it if people want. Don't dwell)

**Slide 18 - How it works (5 moves)**

**ON SCREEN:** Data -> filter -> backtest -> trade -> watch.

**Cover:**

- DATA in
- FILTER out the stocks that don't historically bounce off support
- BACKTEST years of history, realistic costs, keep what holds up
- TRADE the survivors through Interactive Brokers. Paper first
- WATCH on a dashboard with health checks
- Through all of it: partial profit-taking, trailing stops, hard emergency brake (cannot be overridden)

**Slide 19 - Why build your own (the numbers stay here on purpose)**

**ON SCREEN:** 380,000+ backtests. 3.7+ million simulated trades. 938,000 unique after dedup.

**Cover:**

- Who has time to watch a sim one trade at a time? Not me. So I automated it
- 380k+ backtests, 20 time slices, 3.7M+ simulated trades, 938k unique after dedup
- The real reason to build your own: recorded numbers prove a strategy AND show when it works. Then the same numbers build your filters + optimise your signals
- Nothing out there let me test my strategies my way. So I built my own

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- Payoff: full control. Tweak it, optimise it, re-architect it however I see fit
- The catch: a lot of time, stress and learning. Unless you're genuinely curious, don't bother. Half-arsed won't work
- Auto-trading is optional. The backtesting + data engine is the valuable part

### Slide 20 - The honest part

**ON SCREEN:** Half of it, I broke first.

#### Cover:

- The bit nobody puts in the YouTube video: most of my time was fixing things I'd broken
- Real disasters: phantom-positions bug in paper trading. Quietly dropped half the market data for WEEKS before I noticed
- That's what production actually looks like
- Anyone who tells you otherwise is selling something

### Slide 21 - Why it kept breaking + what I built (merged: cowboy + harness)

**ON SCREEN:** The AI is a cowboy. So I built a harness.

#### Cover:

- The breakages weren't random. Raw AI takes shortcuts, fakes tests, declares "done" when it isn't, loses the plot as it fills up
- Building is the easy bit. The hard bit is everything around it
- The failures came first. They're the reason I built the harness
- Ordered workflow, quality gates, evidence required, every claim checked against source
- The AI's the horse, the harness keeps it on the track. Not smarter: ACCOUNTABLE
- Mine is SST3, free on GitHub. Nothing special, it just works for me
- Chases quality, not scale. Slower, burns more tokens, fine for a one-man project
- Runs on a normal subscription (lots of agent tools now push pay-per-use)

### Slide 22 - The principle (Everest + harness)

**ON SCREEN:** Don't climb Everest without a harness.

#### Cover:

- The trading rules that actually protect you: the ones you CAN'T break in the heat of the moment (auto stop, hard limit)
- Everest: plenty are fit enough to climb. Without the gear + the rope rules, your odds fall off a cliff
- A rule the harness enforces keeps you safe. A rule in a document gets ignored the second it's inconvenient

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## SECTION 4 - Where this is going (~4 min)

### Slide 23 - Section divider

**ON SCREEN:** Where is this going?

**Cover:**

- Moving faster than I expected
- New model every couple of months, more general harnesses, costs shifting under your feet

### Slide 24 - Robinhood, the worked example (merged: news + fine print)

**ON SCREEN:** AI and Trading, it's heading that direction.

**Cover:**

- Robinhood callback. Here's the tell
- Even THEY don't hand the AI unlimited access: separate pre-funded account, it only touches what you load in. That's a harness
- Fine print: agent loses your money? That's on you, not them
- Exciting and genuinely dangerous: a dice-roller with your debit card AND a credit card

### Slide 25 - The takeaway

**ON SCREEN:** The skill isn't using AI to trade for you. It's how to harness it.

**Cover:**

- The whole point. The future isn't "let the AI trade". Anyone can do that now, plenty will get hurt
- The durable skill: building the harness around it. That's a tool vs a time bomb
- Everyone on the same tools + bots: same entries, same exits. The crowded trade
- Retail becomes easy to read, telling the smart money exactly how the crowd is positioned

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## SECTION 5 - Further learning + close (~3 min)

### Slide 26 - Where to start if you want to build your own

**ON SCREEN:** Want to build your own? Start with the workflow.

**Cover:**

- Start with your own workflow, not a fancier model
- Know what you are building. know how you need to build it

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- Two building blocks in Claude Code. **COMMAND**: a shortcut you trigger yourself (my /handover). **SKILL**: a packaged capability the AI reaches for on its own
- Put your way of working in. The AI runs your process, repeatably
- Start tiny: one repetitive step into a command, grow it into a skill
- Plug the blog: writing a lot about AI + trading

### Slide 27 - The closer

**ON SCREEN:** There is no hack. There is just the work.

#### Cover:

- My 60-second clickbait filter: listen for guardrails, harness, workflow. Missing? Close the tab
- The ones boasting haven't done the work. The ones who have don't need to
- AI stood on top of the years of graft. It didn't replace them
- Take the graft away: a very confident junior who'll lie to you beautifully

### Slide 28 - Connect + Q&A

**ON SCREEN:** Let's talk. plus two QR codes side by side, labelled: - **Blog - hoiboy.uk** → assets/qr-blog-hoiboy-uk.png - **LinkedIn - /in/hoiung** → assets/qr-linkedin-hoiung.png

#### Cover:

- Blog QR left (everything behind this talk is written up there)
  - LinkedIn QR right, connect
  - The Q&A is the bit I'm here for. What have you got?
  - Open floor, ~30 min
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