



# Patent Mining with LLMs: Game-Changer or Gimmick?

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# Introduction



- Working in IP for 6 years
- Specialising in advising clients in AI and software
- Leads tool and data strategy in CVIP
- PhD in computer science from University of Southampton

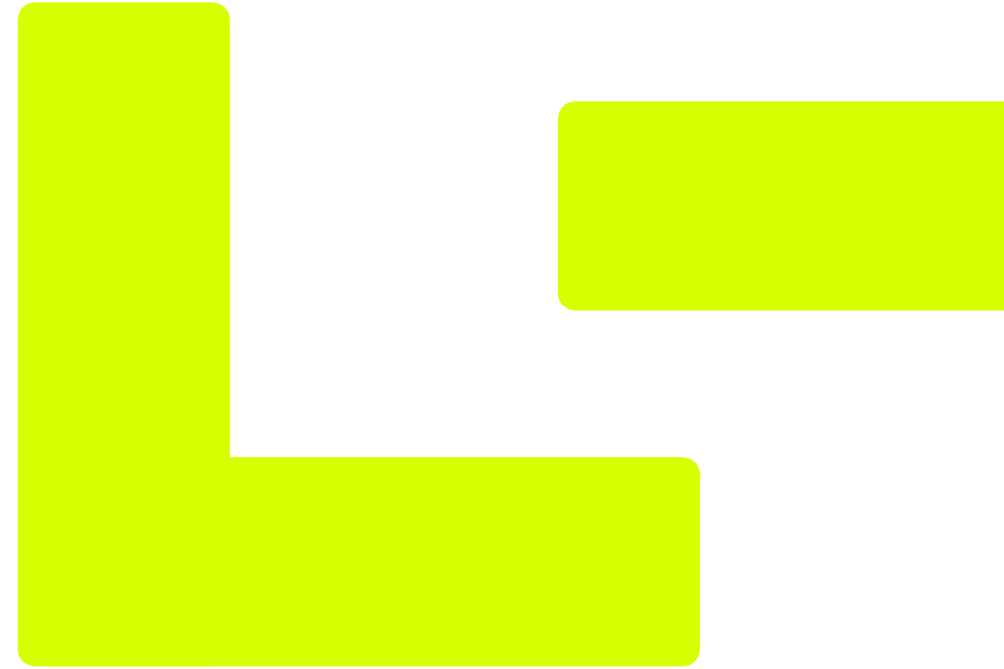


- Originally founded in 2007
- Team spent the last 5 years running the Global IP Advisory practice of one of the big 4
- Proven track record of delivering substantial value to a wide range of clients, from multinational FTSE100 and Fortune500 companies to SMEs and academic institutions
- Wealth of experience across transactions, operations and strategic advisory



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# Why?



Ms Client, Esq

We have a portfolio of 1,000 electronics patent families and would like to know which are good candidates for licensing to the premier manufacturers of tablet devices in the EU



Understand the target product/device/service, pre-filter patent pool to match fixed requirements



Manually review all the patents, ranking/scoring/commenting as required



Multiple additional review stages, usually with client input, before considering candidates for moving on to IoU/EoU

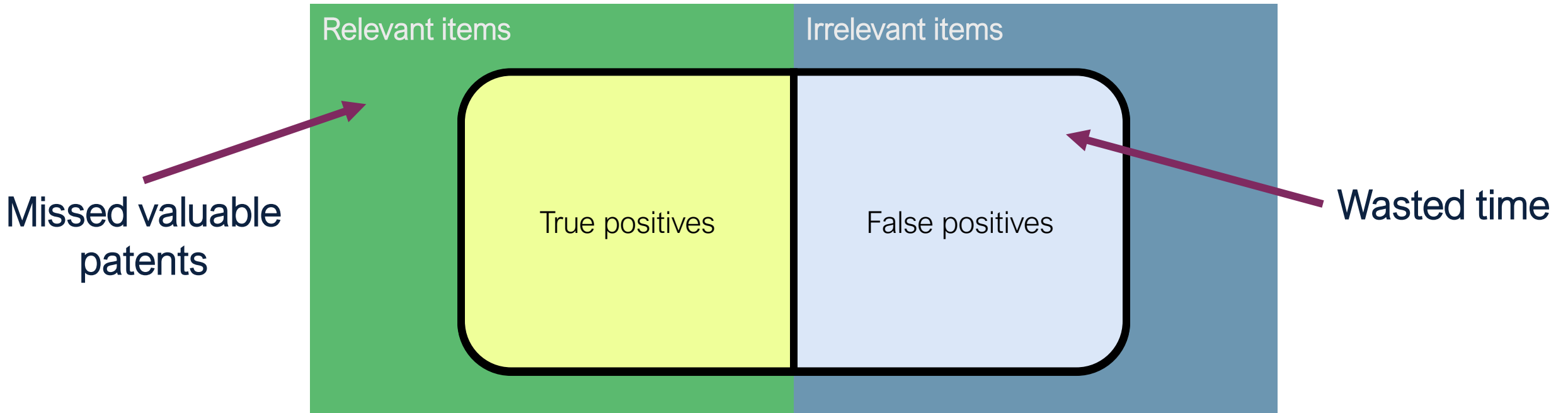
# How?



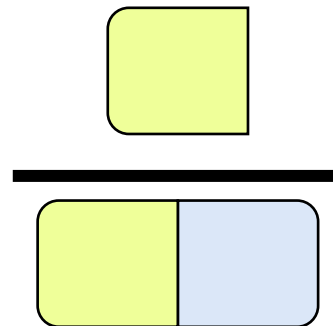
“You are an IP expert specialising in patents. You will review the following patents and examine their claims....”



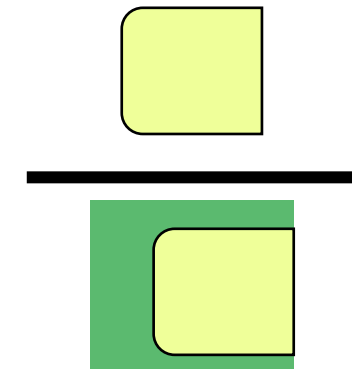
# The Precision/Recall Payoff



**Precision:** “How many of the selected items are actually relevant?”



**Recall:** “How many of the relevant items were actually selected?”



# Missing Context: A Tesla Tale

US10210760B2

A method for autonomous parking of a vehicle, comprising the steps of: requesting initiation of an autonomous parking routine; determining a location of a vehicle user comprising the steps of: (a) transmitting a signal by one of an electronic device in the immediate vicinity of the vehicle; (b) receiving the signal at the vehicle; (c) measuring the distance between the vehicle and the electronic device; (d) determining the location of the vehicle user based on the measured distance; (e) correlating the location of the vehicle user with the location of a transceiver as determined by the transceiver as initiating the autonomous parking routine only if the vehicle user is determined to be one of within the vehicle or beyond a predetermined distance from the vehicle outside the vehicle; and initiating movement of the autonomous vehicle along a calculated path of travel if the vehicle user is not within the calculated path of travel of the autonomous vehicle.

WO2018119889A1

A three-dimensional scene positioning method, comprising: Generating three-dimensional map data according to first visual information of the current scene and depth information corresponding to the first visual information, where the three-dimensional map data includes a three-

As expected, the new o1 models are much slower, due to their “reasoning” process. **OpenAI o1 is approximately 30 times slower than GPT-4o.** Similarly, the o1 mini version is around 16 times slower than GPT-4o mini. 12 Sept 2024

In contrast, the second patent claim focuses on three-dimensional scene positioning and mapping, which, while relevant to autonomous vehicle technology, does not directly correlate with a specific feature currently marketed by Tesla. Tesla’s current offerings emphasize the functionality of autonomous driving and parking more than extensive scene mapping techniques. Thus, the first claim is more closely aligned with Tesla’s marketed product features.



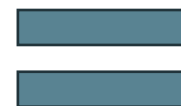
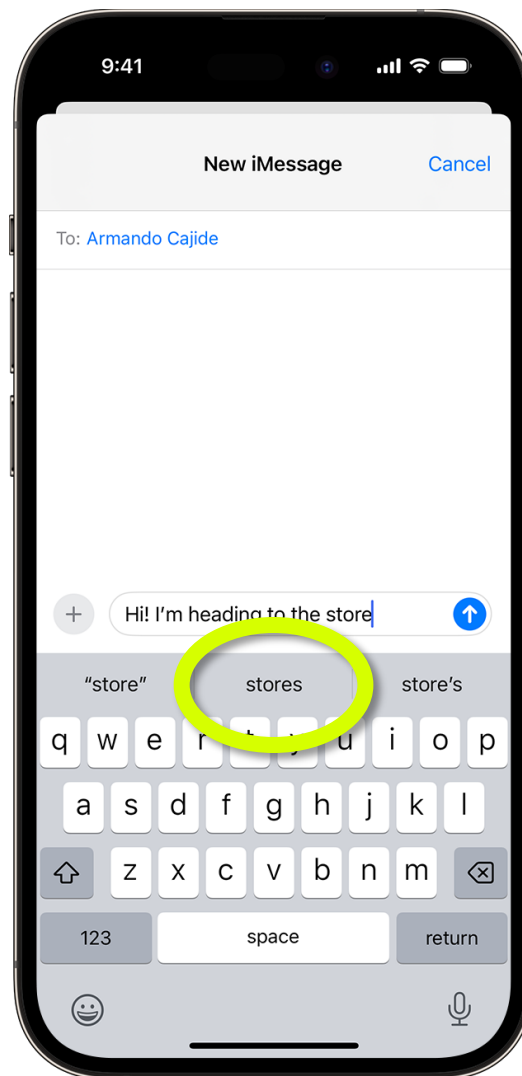
The first patent claim, which describes a method for autonomous parking of a vehicle, is most likely to map to a currently marketed product created by Tesla. This conclusion is based on several factors:

[https://www.tesla.com/ownersmanual/modely/en\\_us/GUID-9A8A9E74-FDAF-4278-BD92-FCB58A4266BA.html](https://www.tesla.com/ownersmanual/modely/en_us/GUID-9A8A9E74-FDAF-4278-BD92-FCB58A4266BA.html)

# Why Not?



“You are an IP expert and I need you to explain to me everything you can about intellectual property so that....”



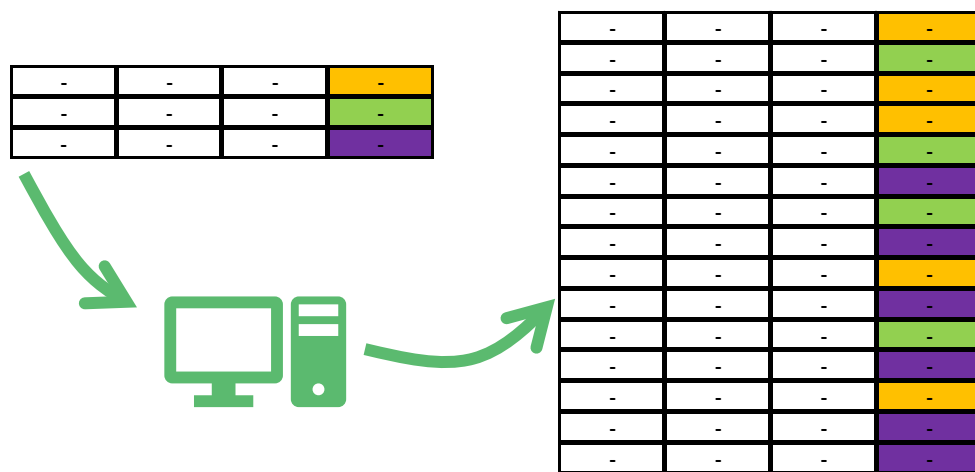
Here are some things I know about intellectual property (IP). Intellectual property refers to creations of the mind, such as inventions, literary and artistic works, designs, symbols, and names. Blah blah blah... Patents protect inventions, copyrights protect artistic works, and trademarks protect brand names. It's important to maintain and enforce IP rights to protect innovation and creativity. Blah blah... Depending on the country, IP laws can vary, so it's critical to understand the legal frameworks in place. Blah blah, something about licensing, infringement, and royalties...





# Wrong tool for the job?

“An algorithm that automatically assigns data points to a range of categories or classes.”



Classifier

“A system to take in prompts and produce plausible, coherent natural language responses”



Large Language Model

# The Bullet Points

## Summary:

- Huge potential for time saving
- One size can't fit all
- What are you missing? What are you wasting time on?
- What context have you lost? What subtleties is the LLM not appreciating?

## Tips:

- **Accept** you may need (multiple) humans in the loop
- **Exercise** healthy scepticism
- **Appreciate** that AI should be a tool, not a decision maker
- **Think** about the problem you're trying to solve



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