ROBOTICS PATENT ANALYSIS

OVERVIEW

In this group assignment, you will be doing a deep dive into a robotics patent (*or a small set of related patents)* to assess the value, the patent, with an eye towards acquiring it or licensing it. You will **create a 10 minute presentation, presenting the result**. While the context of this class is robotics *entrepreneurship*, you will present as if you were a **technology analyst** in an existing company. The reason for this is to encourage you to present in a manner that is likely to be consistent with roles you may have within companies as MRSD graduates who are *not* on the entrepreneurship path.

INSTRUCTIONS

Here is the context for this assignment:

- You work for a company that is in the relevant space of the patent you are reviewing. So, if you're looking at a SLAM patent, you're working for a company that could use SLAM navigation. If you're looking at a patent for a humanoid robotics design, you may be working for a company in warehouse logistics and automation, etc., **This can be a real or fictional company – my preference is that you select a real company, but that's up to you.**
- Your company is considering licensing or outright acquiring the patent. You are a group of *technology analysts* who will be assessing the patent and making a recommendation to company management.
- Your manager wants your assessment of whether the patent is relevant to your company, and whether it's worth exploring further (i.e., going into full due diligence). Does the patent describe an important advancement that would help your company's products? Is the patent strong – or could you easily work around it? What is the likelihood that the owner of the patent would be interested in exploring a deal (i.e., is the patent owner actively using the patent?).

ANALYSIS APPROACH

Here's what you should be considering in your analysis:

- The underlying science or technology. Is this a real innovation? Or just a marginal improvement over something? I.e., is this a foundational patent or one of a large series of patents in a patent fence? Look at the overall field the patent is in. Is that field active and growing? Are the inventors themselves "big names" in the field?
- Who currently owns the patent? Are they likely to be interested in selling or licensing it?
- When does the patent expire? How does that impact your company's plans?
- Are there lots of other patents in this space? Is this a standalone patent controlled by the owner? Or one of many similar patents controlled by the owner?
- What conclusions can you draw from the citations of the patent? I.e., how many citations are there, and what kind of other patents are citing it?
- Are the claims strong? Are they broad? Narrow?
- How easily can you engineer around the patent? How would you do that? (don't need to be very detailed here, just a general overview)
- A competitive analysis of other approaches and significant players.

PRESENTATION CONTENT

The presentation (*no more than 10 minutes in length)* should follow the below:

1. **Company description and context**: This is a description of *your* company – real or imagined. This is needed to provide context for the patent you are investigating and why you are doing so. [**1 slide**]
2. **Analysis:** A clear and comprehensive report on your analysis and findings. This should address *each* of the items above in "Analysis Approach", ideally in the order given above. **[4-5 slides]**
3. **Recommendations**: Description and rationale for your recommendations and next steps. Should the company pursue the patent? Is there an alternative approach (i.e., internal technology development?) **[2 slides]**
4. **References:** All citations in whatever format you want [**Final slide, no need to present]**

As always – there will be point deductions if you go over time (same as previous assignments)

GUIDANCE

Some specific recommendations:

1. Be careful about the patent you pick. I'd recommend you pick something with a lot of citations, and one that is either broad (covers a large topic area), or is narrow but focused in an area without a lot of alternative ways to accomplish the same thing.
2. Be careful about patents from very big companies (Google, Meta, Intel, etc) – they tend to patent *everything* they think of – and most patents have very little value. They do this because they have large teams of internal IP lawyers, and patenting is a cheap hedge for them.
3. In the real world, the response you'd want from your manager should be "Yes let's do this" or "No, let's not do this, and here's why.". It should *never* be "I'm not sure I understand what you are telling me". So, work hard to make legitimate, clear, and reasonable arguments that are *based on your findings*.
4. Think about the difference between presenting raw data vs. actual analysis and synthesized findings. A manger doesn't want to hear "This patent is owned by iRobot". Instead, you should also present the *consequence* of the data. "This patent is owned by iRobot and is central to their Rooma line of vacuum cleaners. As such, it is highly unlikely that they would sell or license the patent, due to the impact it could have on their robotic vacuum cleaner future developments and sales".

USE OF LARGE LANGUAGE MODELS / GENERATIVE AI

Here is what I'm OK with and not OK with, regarding using LLMs (such as ChatGPT) on this assignment. Fundamentally, I'm OK with you using it as a research assistant, but *not* OK with you using it as a method to directly generate text and content. This means:

1. It's **OK** to paste in information you find on the web or elsewhere into an LLM and ask it to summarize it for you. If this helps you digest and use a broader range of information, that's good. It can be especially helpful in analyzing patent claims but be careful that it's not giving you false interpretations.
2. It's **OK** to use LLM to help you with the analysis and come up with ideas and new perspectives.
3. It's **not OK** to directly copy in summaries or any text generated by an LLM.
4. It's **not OK** to limit all your ideas and perspectives to what the LLM suggests (trust me, it will be obvious if you do this).