An AI/ML Strategy for VMS ventures

The global AI market is now $140 billion dollars per year, growing at a rate of 35% annually. Chat GPT, released in November 2022, took *less than 3 months* to reach 100 million active monthly users. That's both the fastest accumulation of customers in history, and likely more than the number of active users of all Constellation software companies combined. The proliferation and potential value of AI cannot be ignored. It is equally true that most AI companies are unprofitable, spending vast sums on the hardware and software required to build and train new AI models, often without a clear plan to build a profitable company. It is a highly competitive industry, with most of the world's largest tech companies investing small fortunes to develop their AI capabilities.

In a field that with so much investment and so many deep pocketed competitors, Constellation should focus on vertical market differentiation. Leave the infrastructure to Google and Microsoft who can recover their investment from hundreds of millions of potential users. Instead, we should leverage the tools built by others to create specific vertical market applications of AI. This would leverage two important assets of CSI: access to industry specific data through our existing businesses that can be used to train models, and existing customers and products through which we could rapidly distribute an AI add-on.

Through my time at Verstra and VMS, I've seen several, vertical specific AI use-cases that I think could be of interest to CSI. Specifically:

- **Automated customer support** – Start-ups such as Ada have already succeeded in building chatbots and phone systems to help companies automate their customer service and reduce the associated costs. Many verticals will have industry specific customer service needs and require different integrations into industry specific systems. CSI could build these vertical customer service bots using a base chatbot technology provided by a 3rd party.
- **Predictive maintenance** – Many CSI verticals (e.g. oil & gas, manufacturing, transit) involve using expensive equipment that can fail. If the equipment is expensive enough and the cost of downtime is very high, the economics of an accurate predictive maintenance system, that will identify problems before the equipment fails, can be compelling.
- **Document extraction** – finding the appropriate information in a mountain of documents in industries such as insurance, healthcare or legal can be expensive and time consuming. There are numerous start-ups trying to build document management tools that can extract the right information at the right time – such as policy specific information for insurance customer service agents dealing with a claim.
- **Image recognition** – using images in specific verticals to aid workflow. An example would be an automated fault detector in manufacturing, or automated infrastructure inspections for municipalities or utilities.

All of these use cases have start-ups currently trying to build these products in certain industries. While many have raised significant funding, few have reached profitability. However, in these cases,

Constellation's existing customer base and access to data would provide them a compelling advantage and a "2nd mover" strategy leveraging our customer relationships could be successful.

The greatest risk in an AI start-up is the high cost, both for developers to program and processors to train a model. Worse, many AI products require significant training and customization for every new customer, or even different uses within the same customer. These high implementation costs tend to force start-ups to sell to enterprise customers who can afford to pay for the necessary customization. To mitigate the risk of high costs, use cases for AI should:

- Create enough value that the company can bear the large development and implementation costs. In other words, you need to be able to charge a high price in a decent size market.
- Select cases where the same model can be used in different customers. Using image recognition to find defects in a road will likely be the same across different customers. Looking for defects on an assembly line likely will require customized training for each factory.
- Look for cases where modest accuracy rates are acceptable. A "cat detector" that can identify whether an image is of a cat can be built with 75% accuracy in 60 minutes. One that requires 99.99% accuracy, including finding white cats in a snowstorm, may be impossible. Look for situations where 90% accuracy is "good enough".

VMS ventures would be interested to fund CSI entrepreneurs building a vertical market AI application that fits the criteria above. Contact karl.schabas@vmsfund.com if you would like to discuss further.

1. UiPath - UiPath is a robotic process automation (RPA) company that uses AI to automate repetitive tasks in business processes. The company went public in 2021 and has been profitable since 2018.
2. Appen Limited - Appen is a data annotation and labeling company that uses AI to improve the quality of data used in machine learning models. The company has been profitable since 2012.
3. Cognitivescale - Cognitivescale is an AI software company that helps businesses automate complex business processes using machine learning and natural language processing. The company has been profitable since 2018.
4. DataRobot - DataRobot is an AI software company that provides automated machine learning solutions to businesses. The company has been profitable since 2018.
5. OpenAI - OpenAI is an AI research and development company that focuses on advancing artificial intelligence in a safe and beneficial way. The company has received significant funding, including from investors such as Microsoft and Amazon, and has been profitable since 2020.

These are just a few examples of profitable AI startups. There are many other startups in the AI space that are growing rapidly and have the potential to become profitable in the near future.