About the Role:

Payments has become a very active/hot area in the last couple of years, creating a strong demand for innovation. This will be a very exciting area in the next 5 to 10 years. Not only is VISA a leader in the payment industry and has been for a long time, but it is also quickly transitioning into a technology company that is fostering an environment for applying the latest technology to tackle exciting problems in this area.

With increasing use of neural network based deep learning to solve problems in Physics as evidenced at IAIFI (https://iaifi.org), the question arises whether these techniques formalized as for example in https://arxiv.org/abs/2304.02637 can be used to understand the world of commerce that Visa is facilitating round the globe.

This position is for a Visiting Scientist with understanding and experience in deep learning, who may be interested in applying deep learning to the world of payments:

- You can be part of a team **building AI solutions** used by billions of Visa cardholders, pushing the boundaries and tradeoffs among accuracy, latency, throughput, and cost.
- Or you can apply the breakthroughs of **transformers and high-performance computing** to financial data -- Visa has a unique dataset of decades of financial transactions -- with a unique dataset, we have an opportunity to create unique generative models, that no one else can.
- Or you can build tools and processes for experimentation, simulation, testing, and validation of AI models, merging advanced AI techniques with Gen AI capabilities -- this unique combination not only ensures the **observability of AI models**, but also enhances their interpretability, paving the way for clear and comprehensive insights.
- Or you can help create a forward-looking **AI Governance** solution to solve new challenges brought by Generative AI, including solutions to issues of AI fairness and explain-ability.
- Last, but not the least, you can join the efforts of **synthetic data engineering** which looks to create an efficient data factory running various learning and generative models for Visa's data at scale while respecting all requirements for security, compliance, and privacy.

Depending on your interest, the position can be based in Austin, TX, or in Foster City, CA, and embedded with the appropriate group that is working on the problem. The work will last from 3 to 6 months.

Essential Functions:

- Collaborate with the team manager of the embedded team to come up with a proposal of work that bridges Deep Learning knowledge with a problem that the team is trying to solve.
- Execute the proposal with coding and design in Visa's engineering environment and datacenters, with a demo that showcases the contribution made during the visit.
- Evangelize and grow deep learning knowledge within the team and outside based on the work.

This is a hybrid position. Hybrid employees can alternate time between both remote and office. In this role, the visiting scientist can decide to alternate her time between her institution and the Visa office if that helps her work. An important part of the work is fostering a relationship between Visa and the academic group that the visiting scientist is already a part of – a successful visit can lead to continuation of the work and opening new ways of understanding and investment by Visa.

Basic Qualifications:

- At least an undergraduate degree, with enrolment in an appropriate Ph.D. program and some coursework and demonstrated knowledge in Machine Learning, especially deep learning. Scientists with a Ph.D. and post-doctoral experience are also welcomed. Placement seniority will be based on years in graduate/post-doctoral program completed beyond the undergraduate/graduate degree, as well as a history of published papers or conference presentations on Deep Learning.

Preferred Qualifications – please feel free to tell us why this position is right for you!

It would be ideal for you to have at least some exposure to and a deep desire to invest in a few of the following items – we will develop these skills further:

- Experience in innovative and new areas such as Machine Learning, Deep Learning, MLOps.
- Experience with hands-on development, solving a range of modeling problems, e.g Predictive Modeling, Reinforcement Learning, Large Language Models (LLMs)
- Experience in software engineering, with the ability to develop large scale and low latency infrastructure for deep learning data, modeling, and system evaluation.
- Experience in using at least one mainstream deep learning frameworks (PyTorch/TensorFlow).
- Understanding of Transformer architectures and their applications.
- Familiarity with the latest advancements in LLMs and generative AI technologies.
- Author for publications at top-ranked, peer-reviewed AI conferences/journals.
- Expertise in at least one of the following: Golang, Java, Python, or C/C++
- Experience with Big Data and analytics in general leveraging technologies like Hadoop, Spark, and MapReduce
- A background in the payment domain is a plus.

Contact:

If interested, please apply with a resume and a cover letter detailing your interest to pasaha@visa.com, CC: GDLMITJobsBulletin@visa.com