

Internship : HPC programming (Cuda) for stochastic Control in incomplete information with application to image indexing and classification : Optimal approximate partial distance search.

We consider the problem of nearest neighbour search in very high dimension (up to 10K).

Due to positiveness of square, it can be useless to compute the complete distance for some element to test and still keep the exact results.

Considering the law of our data, our constraint in term of computation time and the acceptability of some error, we would like to optimize the strategy of computation for different target function.

Another aspect would be to be able to understand the issues in term of access to data and memory for a parallel implementation with Cuda for example. Then we could modelize this computer science problem and try to solve it optimally before implementing it.

Context : Framed by Fotonower Team in Paris

Fotonower, founded in 2014. Fotonower search, sort and display visual user generated content and distribute them to media publishers After some years of investment in Deep Learning and Image Classification, Fotonower is now accelerating their usage for the need of different industry among them automotive industry for observation of traffic and estimation of reparation after damage provoked by collision.

France

Condition : 4 to 6 months

Length of the Internship : 4-6 months.

Starting date : Beginning 2018.

Remuneration : Competitive, depending on experience and time commitment. Around 700 to 1200 euros for full time internship.

Location : Paris and flexible.

We are a very dynamic and skillfull team working in a very flexible environment.

Required Skills Education

Applied Mathematics and Computer Vision.

We need a highly skilled students in Applied Mathematics with strong background in Algebra and Analysis.

He should be motivated, and loves challenges.

The candidate shall be able to propose concrete solutions for the technical problems we will meet during the development.

The candidate should be able to learn quick and adapt itself in a fast growing company and changing environment.

Languages Cuda, Python (or any script language)/NumPy/SciPy/scikit-learn, Caffe, Keras, C, C++ or Java, Html, Lua, English, French