PolyChord – Data Science from Planck Satellite origins, looking for collaborations H2020

Mike Handley Chief Executive
PolyChord Ltd
An SME, a spinout from Cambridge University
UK
Mike.handley@polychord.co.uk +44(0)7850 190 282

PolyChord Ltd

PolyChord Ltd A Cambridge University Astrophysics spinout in 2017, created a tool to analyse **ten billion years** of Planck Satellite data.

Our topics of interest are (we can discuss others if you think there may be an application):

- **DT-SPACE-25-EO-2020**: Big data technologies and Artificial Intelligence for Copernicus
- **SPACE-29-TEC-2020**: Satellite communication technologies
- **SPACE-30-SCI-2020**: Scientific data exploitation
- **U-SPACE-21-SEC-2020**: Space traffic management

PolyChord

Possible Use Cases; What we have to offer

- Optimising satellite constellation orbits
- More accurate Predictive analysis of shipping through multi modal data set analysis – do you have shipping data-sets and have you tried already to mathematically extract information and make predictions
- Getting more information out of sparse data sets (possibility of better using lower resolution data such as inSAR of different kinds)

1. We have large scale cloud-based server technology to analyze big complex data sets
2. We seek collaborators who are gathering large complex data sets and need to get information out where there are challenging variables which defeat other tools and want our data science tools & expertise
3. We also seek collaborations with companies who can help us curate data sets
4. We are only interested in solving problems where there is potentially large commercial value

PolyChord

What's the Nature of the Technology?
Where does PolyChord offer a cutting edge advantage?

PolyChord can handle "Big Data" - more importantly it has the unique ability to extract valuable information from complex challenging data sets containing many variables and high dimensionality.
It uses advanced Bayesian maths and has a smart on-board computing engine.
It can fully explore **previously unknown** *a priori* data surfaces without getting trapped in local minima, without human intervention.
This kind of problem defeats even the latest Deep Learning.
When data sets are complex, challenging, dirty, messy with missing elements and multi-modality, **with many variables in them** PolyChord can be very strong where other methods are weak.

Its Advanced Bayesian optimisation can solve many satellite-based problems.

PolyChord

We are also interested in

- **Exploring Unknown Planetary surfaces PERASPERA**
- **Especially collaborating with those gathering data from robotic devices for this purpose**

- **If you would like to explore an opportunity find us on B2Match or try me on WhatsApp**

- Mike Handley +44(0) 7850 190 282
- mike.handley@polychord.co.uk

PolyChord