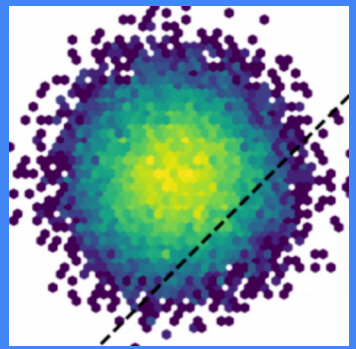
Scientific data analysis workshop

With **Python**



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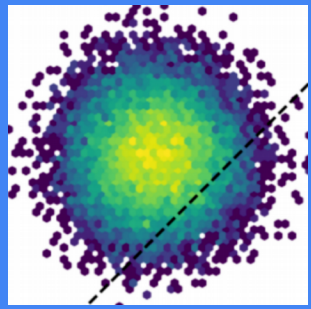
Introduction

Introduction

- Arguably, the most popular programming language in Research sector
- High level language (https://docs.anaconda.com/anaconda/install/)
- Dynamically type
- Rich community support
- Legacy codes

Workshop Scope



- Introduce Python and its scientific modules/ecosystem
- Hands-on coding experience
- Numerical and statistical analysis
- Data preprocessing
- Data visualisation
- Project of your choice

Modules in Python

1. **Numpy**: numerical computing
2. **Scipy**: mathematical, statistical, engineering
3. **Matplotlib**: visualisation
4. **Pandas**: data manipulation
5. **Scikit-learn**: Machine Learning
6. **Jupyter**: web based application for coding
7. **Sympy**: symbolic calculation

Reference material

- Pine David: Introduction to Python for Science and Engineering
- Wes McKinney: Python for Data Analysis