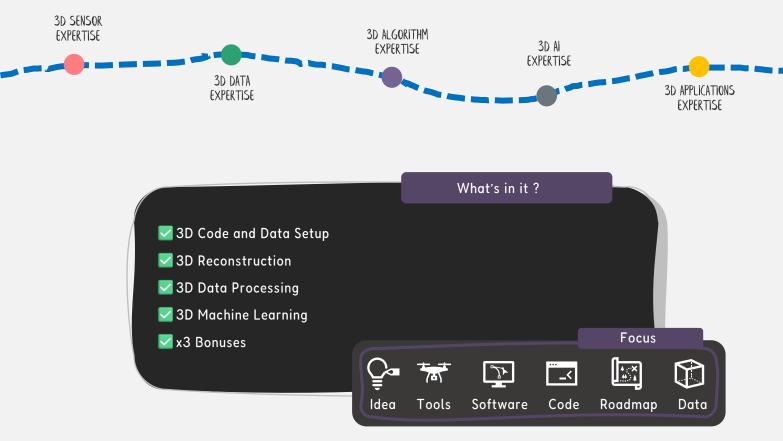


3D Boot Camp

From 3D Point Clouds to Spatial AI

My Foreword Hey Friend 🤲 This little .pdf contains the syllabus for our 3D Bootcamp. It is an Intensive 3D training program to equip you with the skills and knowledge necessary to create 3D assets. I will share hands-on experience and expert guidance, from 3D data acquisition to processing and advanced analysis + visualization. It takes place on a single day and has four main sessions, which can be replayed if you cannot attend (depending on your time zone).



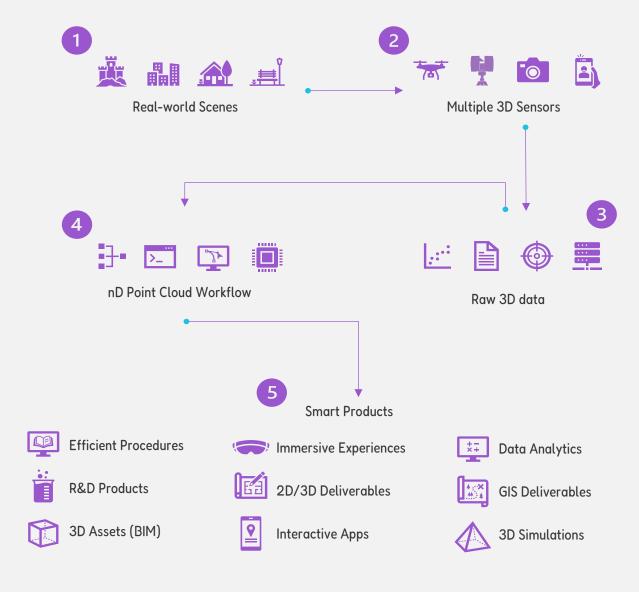


From 3D Point Clouds to Spatial Al The Workflow (High-Level)

All right, you will see that I like to illustrate my sayings. Maybe too much sometimes.

Before diving right in, I want to share a high-level view of the "Digitization" process, especially how to go from the Real World to Smart Products.

If we identify the most significant "molecules" that form our little 3D protein, we can spot 5 of them:



Now that you can make a mental map of the process, let me introduce you to the syllabus for the 3D Bootcamp.





3D BOOTCAMP: SYLLABUS

Date: After securing your spot, check your email for the details of the online venue. I will send several emails before the events start.

Format: Live online sessions via Microsoft Teams, with recordings available for 30 days.

Included: Full 3D Python Course (value 97€), 3D GenAI Fragment (value 197€), and exclusive bonuses for 2025.

Core Session Program

Session 1: 3D Code and Data Setup

- Introduction to 3D Data Science: A brief overview of the field, its applications, and its importance.
- 2025 Tech Roadmap: A roadmap to develop your career, your team, and your innovations in 2025 based on current 3D market analytics. Focus on 3D GeoData* applications and industries.
- **Setting up the 3D Environment:** A step-by-step guide to setting up a Python environment for 3D data science, including installing essential libraries like NumPy, SciPy, OpenCV, and PyTorch.
- Working with 3D Data Formats: Understanding common 3D data formats like point clouds, meshes, and voxel grids.
- Loading and Visualizing 3D Data: Hands-on experience with loading and visualizing 3D data using Python libraries.

Session 2: 3D Reconstruction

- 3D Reconstruction Fundamentals: From data points to 3D data representation and structuration.
- **3D Reconstruction from 2D Images:** Exploring techniques like Structure from Motion (SfM) and Multi-View Stereo (MVS) to reconstruct 3D scenes from multiple images.
- 3D Reconstruction from Single Images: Utilizing deep learning techniques to infer 3D structure from single images.
- Photogrammetry, NERFs, and Gaussian Splatting: Use cases and examples of these solutions.

Session 3: 3D Data Processing

- Point Cloud Processing: Techniques for filtering, smoothing, and segmenting point clouds.
- Mesh Processing: Operations like simplification, repair, and feature extraction for 3D meshes.
- Voxel-Based Processing: Working with volumetric data for tasks like 3D segmentation and classification.
- **3D Feature Extraction:** Exploring techniques to extract meaningful features from 3D data, such as shape descriptors and geometric signatures.

Session 4: 3D Machine Learning

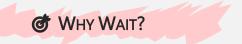
- 3D Machine Learning Fundamentals: Understanding the core principles of 3D Machine Learning.
- **Unsupervised Learning Applications:** Applying unsupervised learning techniques to 3D data like DBSCAN, K-Means or Region Growing.
- Supervised Learning Applications: Applying supervised learning techniques to 3D data for 3D Semantic Segmentation
- 3D Deep Learning Introduction: A glimpse into the power of 3D Deep Learning, and latest technologies

By the end of this intensive boot camp, you will have a solid foundation in 3D data science and a clear action plan for applying these techniques to real-world projects and driving innovation in various fields.

* Geographics, Geomatics, Geometry, Geospatial, GeoVirtual, GeoSciences, GeoVision, GeoAl, GeoInformation ...







Pick One Adventure right now, and be proud you took action today.

