

Earth observation engineer

Pinkmatter is a software development company looking for new talent in Pretoria (Far East) to work in the exciting world of satellite imaging. We build cutting-edge Earth observation software used across the globe.

Role

This role forms part of the software engineering team responsible for the research and development of image processing software and products.

Requirements

Bachelor's degree in engineering or computer science

- Strong mathematics background
- Remote sensing / GIS experience
- 4+ years of development experience with strongly typed languages (e.g., Java, C#, C++)
- This is a fully office-based position

Responsibilities

Software development and design

- Work with the engineering team to create scalable, automated, production-level processing software
- Write clean and maintainable Java code to implement algorithms, processing chains and perform data analysis
- Design and develop software components, tools, and libraries
- Work together with your tech lead to plan milestones, create task breakdowns, and prioritise activities
- Mentor junior team members

Research and development

- Research and develop cutting-edge techniques and algorithms to process and analyse Earth observation data
- Develop a deep understanding of the steps and processes required to calibrate and validate optical EO satellite sensors

- Design and develop processors and processing chains to perform data decoding, calibration, image pre-processing, and image correction
- Work with data ranging from raw satellite data, optical imagery, and SAR data to real-time telemetry received by ground stations
- Devise and implement novel techniques to create and analyse both low-level and high-level imagery products
- Be creative in solving complex problems using mathematical and statistical approaches, systematic modelling, pixel-based analysis, and machine learning
- Document techniques, algorithms, and processes in a clear and organised way
- Stay up to date with new technologies, approaches, and advances in your field
- From time to time, attend conferences and co-author papers

Quality assurance

- Improve, optimise, and validate techniques, chains, and processors
- Devise and perform validation procedures to determine the accuracy, consistency, and performance of processors and products in an automated fashion
- Design test scenarios and ensure that Pinkmatter's products are of high quality
- Analyse data, quality check image products, and write professional reports

Technologies

- Java
- Python experience is a plus
- QGIS, or comparable GIS toolsets

You will need to be:

- Excited about technology and areas such as:
 - Software development
 - Image processing and computer vision
 - Satellites, sensors, and optics
 - Remote sensing
 - Optical, hyperspectral, and SAR imagery
 - Radiometry and geometry
 - Statistical and mathematical models
- Passionate about developing algorithms and writing code
- Analytical, critical thinker, and creative problem solver
- Comfortable working in a dynamic and fast-paced environment
- Flexible, adaptive, calm under pressure, and able to prioritise