Image Processing Engineer

Job ID	2349
Contract Type	Permanent
Location	Tokyo
Apply from	Overseas OK (Relocate to Japan)
Work type	Hybrid
Japanese Level	Not required
English Level	Business
Salary	Yearly JPY 5.0 M to JPY 8.0 M
Skills	Python, C++, C, Rust, Git
About the company	**Synthetic Data for Perspective** We provide one-stop solutions, using geospatial data from its own SAR satellites in line with its mission to create a progressive world based on real data. We are building a constellation of our own small SAR satellites to provide data and analytic information to governments and commercial entities. We are the only company in the world with the capabilities to both develop and operate its own satellites and provide analytics solutions. We offer subscription-based solutions and new solution development with collaborative prototyping: • Infrastructure development • Energy and natural resources development • Disaster risk management We have already successfully launched two satellites, and are aiming to launch six satellites by 2023 and a constellation of 30 satellites around 2026. According to our calculations, if we can operate 30 small SAR satellites, we will be able to acquire and analyze local ground data within two hours of a disaster anywhere in the world, and provide information that will contribute to decision-making in disaster response. Even if an earthquake, flood or other disaster occurs during the nighttime and it is difficult for people to enter the area, we will be able to quickly observe and confirm the situation. **Our CREDO:** • **Synergy of Spirit:** We embark on this journey together, bringing with us our combined experiences and life. As a team, we recognize that the team's goals are also personal goals, and personal goals are the team's goals. We each share a part of the responsibility to succeed. • **Synthesis of Knowledge:** We try to create new value under conditions that have huge uncertainty and volatility. The only way for us to succeed is to progress through trial and error that we learn from and make changes based on our new knowledge. **Synched with the Future:** We have an obligation to create a sustainable future for the next generations. To do so, we must tackle tough challenges as pioneers, leaving our comfort zones that prevent our growth.
Roles and Responsibility	We are building a constellation of SAR satellites that will produce hundreds of images of the Earth everyday. We are looking for a software engineer experienced in image processing and computer vision to develop and optimize our image processing pipeline and help us with the delivery of our SAR images. **Responsibility**

	- Develop tools and algorithms for processing, analyzing, and formatting SAR images
	- Design and implement new features for our data processing pipeline (from RAW radar pulses, to SLC and ground detected products) to enhance efficiency and functionality
	- Create and maintain tests to ensure the reliability and quality of delivered products
	- Investigate and resolve issues related to the data processing pipeline, providing support in triaging and troubleshooting
	- Benchmarking and optimization of existing implementations
	- Collaborate with cross-functional teams to integrate new features within our larger system architecture
	
	Details of work
	- Build and deploy tools and algorithms for processing, analyzing and formatting images
	- Create, maintain and optimize our processing pipelines and data storage
	
	Selling points of this role
	- Cross-functional collaboration: Work alongside experts from various disciplines such as aerospace engineering, radar engineering, digital signal processing, software engineering, among others.
	- Tackle challenging problems, such as dealing with very large image files (sometimes over tens of gigabytes) while ensuring timely data product creation.
	- Get hands on experience on working with cloud platforms
	- Participate in the stage of scaling our system from a few to dozens of satellites in space
	- Work with a modern technical stack and development tools:
	  - Python 3.11: poetry, mypy, flake8, pyright
	  - C++20: CMake, conan
	  - Rust: With pyO3 for python integration

Minimum Qualification	- Background in image and signal processing and computer vision - Experience in C, C++ or Rust - Shell and Python scripting - Knowing development tools like Git, linters and debuggers - Experience with software testing (unit testing, integration testing, system testing) - Can commute to our office in Tokyo some days a week. This is a hybrid role. - Good verbal and written English
Preferred Qualification	- Familiarity with Geographic Information Systems (GIS) tools and methodologies - Experience with SIMD, CUDA, OpenMP or other parallelization technologies - Experience working with large image or video datasets - Excellent project portfolio - Experience working with satellites or space systems - Familiar with ideally Google Cloud Platform or other clouds - Japanese language skills - You have worked in a startup befor

Conditions/ Benefits	**Employment system:** Permanent
	Location: Kiyosumi Shirakawa, Tokyo
	Annual Salary: 5M ~ 8M JPY
	  • Based on experience, ability, and previous work experience
	  • Personnel evaluation system every 6 months
	Hours: Flextime system
	  • Core time from 11:00 - 15:00
	  • 2 days off a week (weekends) including Japanese public holidays
	  • 10 days of paid time leave granted first year with an increment of 1 day every following year (ex. 11 days in the second year) up to a maximum in accordance with Japan's labor laws.
	Probation: 3 months

	Benefits: • Language learning support (Up to 30,000 yen /month) • Employee stock option • Job-related learning expenses covered • Side business allowed • Social insurance and annual medical check • Maternity and childcare leave • No dress code • No smoking on the premises (outdoor or indoor smoking areas available)
Interview Process	1. Application Screening 2. 1st Interview 3. 2nd Interview 4. 3rd Interview 5. Offer ※ This process is subject to change.
How to Apply	Please send your resume and a cover letter detailing why you believe you are a strong fit for this position to asif.matservices@gmail.com