My PNST story

A photographic journey
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<table>
<thead>
<tr>
<th>Name</th>
<th>Maisun Ibn Monowar (মায়সূন ইবেন মনোয়ার, マイスン イブン モノワール, میسون ابن منور)</th>
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<tbody>
<tr>
<td>Education</td>
<td>Undergrad, BRAC University, Dhaka, Bangladesh M.Sc., Kyushu Institute of Technology PhD., Kyushu Institute of Technology</td>
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<td>Affiliations</td>
<td>IEEE</td>
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<tr>
<td>Hobby</td>
<td>Motorsports, DIY electronics, Photography.</td>
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Japan >> 378,000 Sq. KM
126 Million people

Bangladesh >> 148,500 Sq. KM
165 Million People
Dr. Rhaman, Faculty, BRACU. (Also KyuTech Alumni)

Abdulla Kafi,
Faculty,
BRACU.
(Also BRACU Alumni)

Photos from my ‘exchange program’. (2014 ~ 2015)
My Undergraduate Thesis

Title: “UAV Based Remote Sensing”

Purpose: To create a platform for low cost, quick response remote sensing. Using cheap RC planes and android devices a workable, low resolution image can be acquired, which can later be automatically processed to provide user with beneficial information.
Back to KyuTech (on PNST program)
BIRDS project:

Meeting until 1 AM

Building prototype
Test your own design
দেশের প্রথম ন্যানো স্যাটেলাইট প্রস্তুত

অফিসেশন যোগাযোগের জন্য প্রথম ন্যানো স্যাটেলাইট প্রস্তুত।

অলিম্পিক পুরুষ টেস্টের সংগে কুতি ব্যাক মুকুট সরবরাহের নামে কার্যিতারের মূল ভূমিকা।
The Journey continues…

Apr 2018

Same jacket/hoodie
But 2 years gone.
PhD topic: How to reprogram satellites in Space?

Once you launch a cubesat, you can’t reprogram it. Because of:

1. Low power
2. Low memory
3. Low bandwidth etc…

(Sorry, no interesting pictures during this period)
Little off topic: tips if you are selected for PNST

These are not academic tips. But I hope they’ll be useful for your day to day life if you are selected for PNST.

- Japanese skills are not necessary, but you can make new friends.
- Openly discuss / share your ideas and confusions.
- Super markets sell off their food items at half price in the evening. You can eat out everyday without overspending ;)
- You don’t need to bring everything when you move to japan. There are affordable shops nearby.
Professional life: Skygate Technologies

A Tokyo based startup company.

Mission: Provide “Ground Station as a Service” to satellite companies.

Key points:
- Use of SDR
- Platform independent API access

Note: As of 2023, the company is focusing on a different product.
My first job was full remote
Current workplace: iQPS

A space startup company based in Kyushu with a mission to observe the earth almost anywhere within 10 minutes.

[link to source.]

Concept Video
What is SAR?

Normally a camera takes images by visual spectrum. But what if you need to know more details? In-depth?

What if you could “x-ray” earth?

Synthetic Aperture Rader or SAR was conceptualized in 1950’s. Only recently we have the technology to offer it as a service.

Let Scott Manley Explain SAR...
Kyutech（九工大）出身組クロストーク

source

source link
How do we receive data from satellites? What’s my job?
Now imagine for 36 satellites...
We need a solution. (That’s my job. I automate things)
Additional information: What makes GS so Challenging?

- Satellite tracking
- Doppler correction
- Locking onto satellite signal
- Successfully sending command to satellite
- What happens when there are more than 2 satellites?
- Missing communication packets
  - Due to satellite attitude control
  - Due loss of satellite power
  - Due to hangup of satellite hardware
- Different satellites use different communication protocols.
- License and legal issue.
Why should you come to KyuTech? Why PNST?
Get involved

Double checking our experiment

Fit check by JAXA.
No.2 reason: People

Meeting Airbus CEO

Meeting Japanese Astronaut
No. 3 reason: People
No 4. Good weather

My favorite place to relax.
No 5. Testing testing testing

Our testing equipments are only second to JAXA