Feature Extraction from Very High Resolution Multispectral Satellite Datasets

A compendium of hands-on exercises

Geospatial Technology Workshop for Middle School Students with stipends* [Funded by NSF]

*Stipends are only awarded to participants who attend all the (10) workshops and successfully complete all assignments.

Completed applications must be submitted by February 27, 2019

When:
1:00pm-4:00pm,
Every Saturday from
March 7- May 9, 2020

Where:
BCC Geospatial Center of the CUNY CREST Institute
Meister Hall, Rm. 330
2155 University Ave. Bronx, NY. 10453

For additional information please contact:
Dr. Sunil Bhaskaran [Director of BCC Geospatial Center]
Email: Sunil.Bhaskaran@bcc.cuny.edu

Inquiries by phone may be made to 718-289-5233 or 718-262-2889
BCC Geospatial Center of the CUNY CREST Institute- www.bcc.cuny.edu/geospatial/
Workshop Highlights
Managing our environment is important for our well-being and sustainable growth. Information about the vegetation, water bodies, land development, planning may be extracted from satellite imagery. Feature extraction is a technique that enables us to extract vital information about our earth at different scales and time periods. The workshops will expose and train participants in feature extraction techniques using industry standard software and hardware. They will also provide participants to interact and learn from experts in the field.

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<td>March 7, 2020</td>
<td>Introduction to Image Analysis and Feature Extraction</td>
<td>Presentation, Video, Hands-on exercise</td>
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<td>March 14, 2020</td>
<td>Introduction to Image Analysis and Feature Extraction</td>
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<td>March 21, 2020</td>
<td>Introduction to Unsupervised Classification of Multispectral satellite imagery</td>
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<td>March 28, 2020</td>
<td>Challenge Task</td>
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<td>April 4, 2020</td>
<td>Introduction to Supervised Classification of Multispectral satellite data</td>
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<td>April 11, 2020</td>
<td>Challenge Task</td>
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<td>April 18, 2020</td>
<td>Extracting features from satellite data P-I</td>
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<td>April 25, 2020</td>
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<td>May 2, 2020</td>
<td>Guest Lecture by expert from the Industry</td>
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<td>Final Presentation</td>
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SPRING 2020 GEOSPATIAL WORKSHOP
MIDDLE SCHOOL APPLICATION

1. Print Name: ____________________________ __________________________ _______
   LAST                  FIRST                  M.I.

2. OSIS #: ____________________________

3. Age: ______   Sex: Female   Male   Race/Ethnicity: ________________

4. Name of High School: ________________________________________________
   Address of High School: ______________________________________________
   Grade Level: ______   GPA: __________

5. Current Home Address:
   _________________________________________________________________
   APT #   CITY   STATE   ZIP CODE

6. Contact Information:
   (_____)__________________ _______________________________________
   MOBILE   EMAIL

7. Emergency Contact:
   __________________________ __________________________ (_____)____________
   NAME   EMAIL   PHONE NUMBER
   __________________________ __________________________ (_____)____________
   NAME   EMAIL   PHONE NUMBER
8. Questionnaire (Please answer the questions on the form)

How do satellite based maps help us in our daily lives? Give one example and briefly explain.
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

Give an example of how you used computers in a school project?
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

Which careers interest you the most? Is this workshop aligned to your broad career interests?
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
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_____________________________________________________________________________________

Give two examples of features that may be extracted from a satellite image or a series of satellite images.
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

9. **Comment by parents/guardian:** This technology workshop program is aligned to my daughter/son’s specific interests and is in line with her/his broader career pursuits.

_________________________________________________________________________________
_________________________________________________________________________________

**Signature of the Parent/Guardian:** ________________________________________________

**Print Name:** __________________________

**Contact phone#:** _(_ ___)_________

10. **Reference Information** *(Provide a name, email id, and phone number of a teacher who knows you very well and can send us a recommendation letter describing your character and discipline in learning)*

**Name:** ________________________________________________________________

**Email ID:** ______________________________________________________________

**Phone number:** ________________  **Work/Office number:** ________________

Submit the completed application form *(as a scanned attachment)* to Dr. Sunil Bhaskaran, the director of the BCC Geospatial Center. His email id is **Sunil.Bhaskaran@bcc.cuny.edu**

**Note:** Only those applicants who are shortlisted will be contacted. Unless you get a written email confirmation you must not assume you are selected for the workshop.