Appendix 2.2

Report of International Conference Presentation

Name: (Presenter)	Jessada Karnjana
Affiliation:	National Electronics and Computer Technology Center
Project Title:	A Coastal Erosion Monitoring Platform Based on Wireless Sensor Networks and 3D Point Clouds from Airborne LiDAR
Name of International Conference: (Link to website)	The 17th Asian Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA 2025) https://www.apsipa2025.org/wp/
Title of Research Paper:	Wave Direction Estimation Based on Local Gradient Techniques from Satellite Imagery for Coastal Dynamics Monitoring
Name of all Co-authors (if any)	Woramet Simrum, Paweena Kanokhong, Chakapat Chokchaisiri, Somrudee Deepaisarn, Kittipisut Chansri, Chanyutt Lisawat, Waranrach Viriyavit, Akkharawoot Takhom, Phutphalla Kong, Didin Agustian Permadi, Sharifah Hafizah Syed Ariffin, Surasak Boonkla, Kasorn Galajit, and Jessada Karnjana

Comments or feedback received at the conference and your answers:

There were two major questions raised. The first concerns the importance of wave direction. Our response highlighted that wave direction plays a crucial role in beach dynamics, providing insight into beach deformation and sediment transport. A deeper understanding of these processes is essential for addressing coastal erosion.

The second question focuses on the limitations of our work. Since the proposed method relies on satellite imagery, it currently cannot process nighttime images, which is a constraint of the dataset. Addressing this limitation represents a key direction for future research.

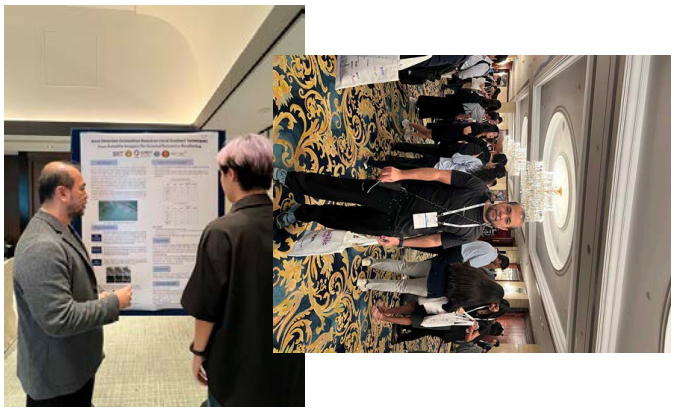
Contribution to the project:

The main theme of the session centered on signal and information processing, which aligns closely with the focus of our presented paper. Our work aims to automatically estimate wave direction from satellite imagery. Because wave crests are difficult to detect in such images, the data are inherently noisy, requiring robust decision-making under uncertainty.

Although our study is the only project addressing coastal erosion, many presentations at the conference showcased valuable techniques in signal and information processing, demonstrating how these methods can

be applied across a wide range of domains.

Photos



[Required Documents]

A) Presentation Materials (e.g., PPT slides)

B) Final Program of the conference

Reporter: Jessada Karnjana

Date: 1 December 2025