Sookyung Kim
Supported Projects: ESGF, CASC postdoc

Quarterly Report for July 1, 2017 – September 30, 2017

Quarter Accomplishments:

- **Machine Learning**
  - Database development of historical CAM5 Tropical cyclone tracking history with LBNL
  - Brainstorming of Tropical Cyclone Tracking using LSTM, attention model with Samira Ebrahimi from Microsoft Research for the project collaborated with NERSC LBNL
  - Apply "attention is all you need" model for the connecting multiple locations problem of tropical cyclones tracking
- **List of Accepted Publication**
  - Soo Kyung Kim, Sasha Ames, Jiwoo Lee, Chengzhu Zhang,Aaron C.Wilson and Dean Williams " Massive Scale Deep Learning For Detecting Extreme Climate Events", Climate Informatics (2017): NCAR/TN536+PROC
  - Sookyung Kim, Sasha Ames, Jiwoo Lee, Chengzhu Zhang, Aaron C. Wilson and Dean Williams "Framework for Detection and Localization of Extreme Climate Event with Pixel Recursive Super Resolution." DMESS, (2017). Seventh Workshop Data Mining on Earth System Science. ICDM on IEEE, 2017.
- **Conference Attendance**
  - Sep 20 - 22, 2017: Climate Informatics 2017
  - Sep 24 – 39, 2017: Heidelberg Laurate Forum 2017

Next Quarter's Roadmap

- Apply LSTM based attention model for TC tracking given global scaled CAM5 reanalysis data
- Targeting to workshop publication for "Deep Learning for physical science" in NIPS 2018
- Keep working on collaborated project with NERSC LBNL