Yu Cheng

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PROFILE

Climate scientist with expertise in data wrangling, predictive modeling and scientific programming. Passionate about solving real-life problem using data-driven approaches. Thrive in a fast-paced environment and eager to learn and innovate.

EDUCATION

University of Miami
PhD in Meteorology and Physical Oceanography, 2018

National Taiwan University
Bachelor of Science in Atmospheric Sciences, 2010

SOFT SKILLS

- Oral and Written communication
- Project and Time Management
- Creative problem-solving

TECHNICAL SKILLS

- Machine Learning/Deep Learning
- Advanced Analytic
- Statistics and Probability
- Timeseries Analysis
- Python, SQL, Matlab, Fortran, Spark, Git, Airflow, Docker, Kubernetes, Google Cloud Platform, AWS, PyTorch, QGIS

07.16.2021

PROJECTS

Deep Learning for Precipitation Estimate from satellite images
developing a deep learning model trained with the Storm Event Imagery (SEVIR) dataset to predict categorical rainfall estimates using PyTorch.

Wildfires and climate change
exploring the relationships between wildfires and climate variables, using Jupyterlab and matplotlib. Preliminary results showed that the wildfire season over the western U.S. has extended by nearly 70 days since 1980s.

Automated satellite visual pipeline of sea surface condition
coordinated with 2 research cruises to visualize near real-time ocean surface conditions using both MODIS satellite observation and RTOFS ocean forecasts, with the aid of NCL, Python, and crontab.

EXPERIENCE

Tomorrow.io 2018 – present
Senior Atmospheric Data Scientist Boston, MA

- Prototyped novel weather products and led independent research efforts. Works range from applying computer vision and machine learning techniques to developing and optimizing algorithms to ensure production readiness.
- Applied Machine Learning techniques using Scikit-learn and pandas, combining a crowd sourcing weather observations and model output to infer precipitation type over the continental US.
- Established a pipeline that estimates global precipitation from multiple Geostationary satellite images in near real-time, using Google Cloud Platform, xarray, dask and satpy. [blog post]

RSMAS, University of Miami 2012 - 2018
Research Assistant Coral Gables, FL

- Investigating Agulhas Leakage variability using a high-resolution climate model, resulting in 4 peer-reviewed articles.
- Discovering relevant climate patterns using open-source software, such as the PyData stack (pandas, numpy, scipy, matplotlib, statsmodels, xarray), CDO and NCL.