YU CHENG

CLIMATE MODELER & DATA SCIENTIST

CONTACT

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PROFILE

Trained scientist with expertise in data wrangling and predictive modeling, who can identify opportunities, formulate questions, analyze data to tackle them and communicate results effectively.

EDUCATION

2018
UNIVERSITY OF MIAMI [CORAL GABLES, FL]
Ph.D. of Meteorology and Physical Oceanography

2010
NATIONAL TAIWAN UNIVERSITY [TAIWAN]
Bachelor of Science in Atmospheric Sciences

SOFT SKILLS

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

TECHNICAL SKILLS

- Machine Learning
- Advanced Analytics
- Statistics and Probability
- Data Visualization
- Distributed/Cloud and High-Performance Computing
- Time Series Analysis
- Python, SQL, Matlab, Fortran, R Spark, Git, Docker, Node.js, Google Cloud Platform

PROJECTS

Ongoing Projects

- **Tennis string recommendation system:** scrapping tennis strings ratings and reviews from websites such as Stringforum and Tennis-Warehouse, using tools including Scrapy and Selenium.
- **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.

Past Projects

- **Automated pipeline visualizing satellite observed ocean surface conditions:** 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.
- **Pre and post-processing suite for large climate model output:** developed an automated routine to remap, clean and process outputs from ongoing climate simulations to be used for particle tracking experiments, and to generate transport timeseries from particle trajectories.

EXPERIENCE

2018- PRESENT
Atmospheric Data Scientist | Climacell

- Collaborate with the R&D team to develop novel weather products and lead independent research efforts. Thrive in a fast paced agile development setting.
- 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.
- Implementing and iterating a pipeline that merges satellite images and convert such to global precipitation rate map in near real-time, using **Google Cloud Platform**, **xarray** and **satpy**.

2012–2018
Research Assistant | University of Miami

- Investigating Agulhas Leakage variability using a high-resolution climate model by tracking virtual over 10^7 virtual particles, resulting in **3 peer-reviewed articles**.
- Discovering relevant patterns from climate model output (**~ 10_2 TB**) using open-source software, such as the **PyData stack (pandas, numpy, scipy, matplotlib, statsmodels, xarray)**, CDO and NCL.