

Liang Yu
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<https://github.com/lnsdlszsqxxx/runtime-ii>

Education

- **PhD** in Climate Dynamics, *George Mason University, Fairfax, VA (GPA 3.91)* 2013 - 2019
- **MS** in Meteorology, *Chinese Academy of Sciences, Beijing, China* 2010 - 2013
- **BS** in Atmospheric Science, *Nanjing University, Nanjing, China* 2006 - 2010

Skills

- **Programming Language/Database:** Java, Hibernate, Spring, SQL, PostgreSQL, pgAdmin 4
- **Others:** Linux, AWS, RESTful, Git, Maven, JUnit, flyway, postman, docker, Shell, sendgrid
- **Scientific Programming:** Fortran (10+ years), R, MATLAB, C, NCL, GrADS

Experience

- **Software Development Engineer in famulei.us** 2019.5-present
 - Use SQL for schema creation, flyway for migration and Hibernate for CRUD operations.
 - Add Hibernate DAOs in Spring service layer.
 - Use maven for API dependency management and test code with JUnit.
 - Implement RESTful API in Spring controller and test in postman.
 - Add authentication and authorization components through Servlet filter for security purpose.
 - Integrate the project with AWS S3 and SQS, and send emails through sendgrid.
- **Impact of surface forcing on Atlantic multidecadal variability** 2013-2019
 - Code everyday in Fortran to simulate Atlantic meridional overturning circulation (AMOC) and develop a new system for the surface forcing input.
 - Interpolate the forcing data onto the right grid point identical to the ocean model resolution.
 - Perform the cloud computing with 256 CPUs to simulate the AMOC multidecadal variation for 600 years on the NCAR's (National Center for Atmospheric Research) Yellowstone server.
 - The tens of terabyte output data in netCDF format is cut by using the netCDF operators written in the C shell script, and analyzed by some statistical techniques, such as empirical orthogonal functions (EOF) and linear regression.
- **The impact of initial and parameter errors on ENSO prediction** 2011-2013
 - Find the optimal combination of initial and parameter errors using the conditional nonlinear optimal perturbation (CNOP) method.
 - Demonstrate that initial errors are more essential than parameter errors for the spring predictability barrier (SPB) of El Niño-Southern Oscillation (ENSO).

Awards

The people's scholarship in China (top 5%) 2007
Tsang Hin-chi Scholarship (top 5%) 2007,2008,2009

Publications

- Liang Yu, Bohua Huang and Barry Klinger: Response of upper and deep Atlantic Ocean to surface forcings on multi-decadal time scales in CESM. In progress.
- Dirmeyer, P. A., L. Yu, S. Amini, A. D. Crowell, A. Elders, and J. Wu: Projections of the shifting envelope of water cycle variability. *Climate Change*, 136, 587-600, 2016, doi: 10.1007/510584-016-1634-0.