

Alexander Samalot

119 Mohawk Drive, West Hartford, CT | alexsamalot19@gmail.com | (860)726-8447 | www.linkedin.com/in/alexSamalot

Objective: Application for the Software Engineer I position with AER, Inc.

Recently published MS graduate in Environmental Engineering with significant exposure to code development, data analysis, numerical weather prediction, presentation and technical writing skills

Education:

University of Connecticut, Storrs, CT
Masters of Science in Engineering, August 2017
Environmental Engineering; GPA: 3.5/4.0

University of Connecticut, Storrs, CT
Bachelors of Science in Engineering, May 2014
Environmental Engineering; GPA: 3.2/4.0

Peer-Reviewed Publication:

A. Samalot, M. Astitha, J. Yang, G. Galanis, " Combined Kalman Filter and Universal Kriging to Improve Storm Wind Speed Predictions for Northeastern U.S.," *Weather and Forecasting*, June 2019

- Developed techniques for post-processing high-resolution Numerical Weather Prediction model (NWP) outputs towards spatial and temporal error/bias correction of extreme weather events
- Advanced a FORTRAN Kalman filter code to handle large datasets (more than 100 storms that impacted NE US) for temporal bias correction
- Managed data with MATLAB in order to streamline the combination of Kalman filter and Universal Kriging for optimal NWP error correction
- Developed Python code to request and collect station observations from a federal database (NOAA/NWS)
- Georeferenced station data in ArcGIS to create a common spatial reference system and identical output domain for NWP and a MATLAB Kriging Toolbox
- Basic Linux platform navigation, familiarity with vi editor, as well as filtering I/O to searches and copy commands
- Extensive statistical analysis of model outputs and graphical representation using R
- Successful reduction of NWP surface wind speed bias for over 100 extreme weather events that impacted the Northeastern United States using knowledge of geostatistics and probabilistic properties of model error

Employment and Research:

Whitestone Associates (June 2018-Present)

- Report writing based on data collected from public records and private construction services
- On-site inspections of geotechnical construction elements to ensure built as designed

Atmospheric and Air Quality Modeling Group (August 2014-June 2019)

- Research on optimal Kalman Filter and spatial detrending based on M.S. Thesis framework
- Presented Thesis findings at poster sessions and seminars for feedback and collaboration

Teaching Assistant at University of Connecticut (August 2014-May 2015)

- Led office hours as well as review sessions for Applied Mechanics and Fluid Mechanics
- Bridged communication between the students and professors of multiple lectures per semester

Graduate Courses:

Quantitative Methods, Data Mining and Predictive Analytics, Probabilistic Methods, Hydrometeorology, Fundamentals of GIS and Application Issues in GIS

Computer Skills:

JavaScript, Java, C++, Python, Linux, FORTRAN, R, MATLAB, ArcGIS, SQL, Google Firebase, HTML, CSS, Excel Macros and GitHub