Europass Curriculum Vitae

Personal information

Surname(s) / First name(s)	**Cerrai, Diego**
Email(s)	diego.cerrai@uconn.edu;
Nationality(-ies)	Italian
Occupation or position held	**Assistant Research Professor**
Name and address of employer	Department of Civil & Environmental Engineering, University of Connecticut
Desired employment/ Occupational field	Forecaster, Modeler, Data Scientist, Professor Meteorology, Hydrology, Climatology, Data Mining, Outage Prediction

Education

Dates	08/2015 - 05/2019
Title of qualification awarded	Doctor of Philosophy in Environmental Engineering
Title of thesis	Predicting Weather-Caused Power Outages: Technique Development, Evaluation, Applications
Principal subjects/Occupational skills covered	Hydrology, Climatology, Statistics, Environmental Chemistry, Data Mining, Remote Sensing, Transport in soil, water and atmosphere
Name and type of organization providing education and training	University of Connecticut

Dates	09/2012 - 09/2015
Title of qualification awarded	Master in Physics of the Earth System
Title of thesis	Moisture and potential vorticity in medicanes: theoretical approach and case studies
Principal subjects/Occupational skills covered	Physics and Chemistry of the Atmosphere, Climatology, Geophysics, Hydrology, Oceanography, Physics of Clouds, Radiative Transfer, Dynamic and Synoptic Meteorology
Name and type of organization providing education and training	University of Bologna

Dates	09/2008 - 12/2012
Title of qualification awarded	Bachelor in Physics
Title of thesis	Realization of a hot-wire anemometer for measuring the velocity profile of a fluid
Principal subjects/Occupational skills covered	Physics, Chemistry, Mathematics, Informatics
Name and type of organization providing education and training	University of Pisa

Training

Dates	02/2015
Title of qualification awarded	Course on Probability and uncertainty: two concepts to be expanded in meteorology. Certificate of attendance
Name and type of organization providing education and training	ARPA-SIMC, Bologna

Work experience

Dates	06/2019 - 08/2019
Work	Postdoctoral Research Associate
Description	R&D Team Leader of the University of Connecticut Outage Prediction Model (UCONN OPM)
Occupational skills covered	Predictive Analytics, Data Assimilation, Data Mining, Operational System Development
Name and type of organization	Eversource Energy Center, University of Connecticut

Dates	08/2015 - 05/2019
Work	Research Assistant
Description	Responsible for the University of Connecticut Outage Prediction Model (UCONN OPM) research and development (R&D)
Occupational skills covered	Predictive Analytics, Data Assimilation, Data Mining, Operational System Development
Name and type of organization	Eversource Energy Center, University of Connecticut

Teaching experience

Dates	01/2019 - 05/2019
Work	Instructor of Probability and Statistics CE 2251
Description	Probability and Statistics in Civil and Environmental Engineering - Undergraduate course - 3 credits
Name and type of organization	Department of Civil and Environmental Engineering, University of Connecticut

Dates	01/2019 - 05/2019
Work	Instructor of Applications of Probability and Statistics CE 3251
Description	Civil and Environmental Engineering Applications of Probability and Statistics - Undergraduate course - 1 credit
Name and type of organization	Department of Civil and Environmental Engineering, University of Connecticut

Scientific publications in international journals

Description

Cerrai, D, P. Watson, and E. N. Anagnostou, 2019: Assessing the effects of a vegetation management standard on distribution grid outage rates. *Electric Power Systems Research* **175**, 105909

Cerrai, D., D.W. Wanik, M.A.E. Bhuiyan, X. Zhang, J. Yang, and E. N. Anagnostou, 2019: Predicting Storm Outages through New Representations of Weather and Vegetation. *IEEE Access*, **7**, 29639-29654 doi:10.1109/ACCESS.2019.2902558.

Cioni, G., D. Cerrai, and D. Klocke, 2018: Investigating the predictability of a Mediterranean Tropical-like Cyclone using a storm-resolving model. *Q. J. Royal Meteorol. Soc.* **144** (714), 1598-1610.

Wanik, D.W., E.N. Anagnostou, M. Astitha, B.M. Hartman, G.M. Lackmann, J. Yang, D. Cerrai, J. He, and M.E. Frediani, 2018: A Case Study on Power Outage Impacts from Future Hurricane Sandy Scenarios, *J. Appl. Meteor. Climatol.*, **57** (1), 51-79.

Miglietta, M. M., D. Cerrai, S. Laviola, E. Cattani, and V. Levizzani, 2017: Potential vorticity patterns in Mediterranean "hurricanes", *Geophys. Res. Lett.*, **44**, 2537-2545, doi:10.1002/2017GL072670.

Scientific Committee Assignments

Technical Committee: American Geophysical Union (AGU) Hydrology - Precipitation Technical Committee

Reviewer for:
Advances in Meteorology
Atmospheric Research
JGR-Atmospheres
Remote Sensing

University Assignments

Dates: 08/2018 - 12/2018
Position: Appointed for organizing Fall 2018 Seminar Series at the Department of Environmental Engineering
Organization: Department of Environmental Engineering, University of Connecticut

Dates: 08/2016 - 08/2017
Position: Event coordinator
Organization: Student Association of Graduate Engineers, University of Connecticut

Awards

Atmospheric Research: Certificate of Outstanding Contribution in Reviewing, 2017

Department of Environmental Engineering, UConn: Pre-Doctoral Fellowship Award, Fall 2017

Personal skills and competences

Mother tongue(s): **Italian**

Other language(s): English, German

Self-assessment *European level*(*)	Understanding		Speaking		Writing
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C2	C1	C1	C1
German	A2	A2	A1	A1	A2

(*) *Common European Framework of Reference (CEF) level*

Social skills and competences: natural attitude to work as a team member

Organizational skills and competences	prioritizing (organization of work tasks providing different levels of priority); have full control of work and targets
Technical skills and competences	experience in weather modeling, outage prediction, remote sensing, handling large datasets, graphical visualizations
Computer skills and competences	good knowledge and skills of MATLAB and R, used to create new operational predictive frameworks and to develop new techniques to visualize model outputs knowledge of GrADS, C++, TINA-TI, LabVIEW knowledge of scripting languages (Unix) and word processors (Microsoft Office, LaTeX) basic level use of IDL, Fortran, ArcGIS

Additional information

International Conferences

Cerrai, D., Walters, M.S., Watson, P.L., Zhang, X., Anagnostou, E.N.: Power Outage Prediction Models for Mixed Phase Precipitation Events: Machine Learning vs. Statistical Models. *American Geophysical Union, Fall General Assembly 2018*, Washington, D.C., 10 - 14 Dec.

Watson, P.L., Cerrai, D., Anagnostou, E.N.: Effects of the structure of training regime on a machine-learning based power outage model. *American Geophysical Union, Fall General Assembly 2018*, Washington, D.C., 10 - 14 Dec.

Wanik, D.W., Alpay, B., Watson, P.L., Cerrai, D., Anagnostou, E.N., Udeh, K: Dynamic Representation of Storm Outages Using an LSTM Neural Network *American Geophysical Union, Fall General Assembly 2018*, Washington, D.C., 10 - 14 Dec.

Yang, J., Astitha, M., Cerrai, D., Watson, P.L.: Uncertainty Assessment of Extreme Storm Forecasts Using Numerical Weather Prediction and Gridded Bayesian Linear Regression *American Geophysical Union, Fall General Assembly 2018*, Washington, D.C., 10 - 14 Dec.

Cioni, G., Cerrai, D., Ricchi, A., Anagnostou, E.N., Nikolopuolos, E., Carniel, S., Bonaldo D., and Borga, M.: A numerical study of the Livorno 9-10 September 2017 flash flood. *EGU General Assembly 2018*, Vienna, 8 - 13 Apr.

Cioni, G., Cerrai, D., and Klocke, D.: Investigating the predictability of a Mediterranean Tropical-like Cyclone using a non-hydrostatic high-resolution model. *EGU General Assembly 2018*, Vienna, 8 - 13 Apr.

Cerrai D., E. N. Anagnostou, J. Yang, M. Astitha: Predicting Power Outages Using Multi-Model Ensemble Forecasts. *American Geophysical Union, Fall General Assembly 2017*, New Orleans (LA), 11 - 15 Dec.

Cerrai D., E. N. Anagnostou, D. W. Wanik, M. A. E. Bhuiyan, X. Zhang, J. Yang, M. Astitha, M. E. Frediani, C. S. Schwartz, M. Pardakhti: Enhanced outage prediction modeling for strong extratropical storms and hurricanes in the Northeastern United States. *American Geophysical Union, Fall General Assembly 2016*, San Frascisco (CA), 12 - 16 Dec.

Laviola S., M. M. Miglietta, D. Cerrai, E. Cattani, V. Levizzani, 2016: Potential vorticity patterns in Mediterranean hurricanes. *EGU General Assembly 2016*, Vienna, 17 - 22 Apr.

Miglietta, M. M., D. Cerrai, S. Laviola, E. Cattani, V. Levizzani, W. Kim, S. K. Park, C. Cassardo, A. Ricchi, and S. Carniel, 2015: Analysis of an intense tropical-like cyclone over the western Mediterranean Sea through a combined modeling and satellite approach. *ECSS2015*, Wiener Neustadt, 14-18 Sept.

Levizzani, V., M. M. Miglietta, D. Cerrai, S. Laviola, E. Cattani, W. Kim, S. K. Park, C. Cassardo, A. Ricchi, S. Carniel, 2015: Analysis of an intense tropical-like cyclone over the western Mediterranean Sea through a combined modeling and satellite approach. *Taipei Severe Weather and Extreme Precipitaion 2015*, Taipei, 25 - 27 May.