Brock Burghardt, PhD, CCM

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PROFESSIONAL EXPERIENCE

Meteorologist June 2020 – present
National Weather Service, Salt Lake City, UT

- Develop and disseminate weather forecasts for public and clients.
- Develop and improve local machine learning models for flash floods and wind gust forecasting.

Senior Data Scientist March 2019 – May 2020
Data Scientist September 2018 – February 2019
Progrexion, Salt Lake City, UT

- Manage multiple projects and data scientists within the marketing analytics group.
- Consult various departments on analytics needs and deliver inferential and predictive models.
- Develop, deploy and report on machine learning models helping to improve operations efficiency.

Meteorologist and Owner May 2018 – present
Burghardt & Associates, LLC, Park City, UT

- Manage and ensure delivery on all company contracts.
- Develop and maintain international numerical weather modeling projects.

Meteorological Developer April 2017 – April 2018
Weatherbell Analytics, New York City, NY (remotely based in Park City, UT)

- Collaborate with partner companies for new weather products.
- Run and maintain numerical forecast models, including on multiple cloud computing platforms.
- Develop new weather products with various models (global, seasonal, climate) using multiple correction methods.

Research Assistant August 2013 – April2017
Texas Tech University, Lubbock, TX

- Running, testing, and verifying ensemble forecasts with a WRF-DART system.
- Collaborate, develop and maintain severe weather processing and plotting for the TTU real-time ensemble.
- Present performance results from research and real-time ensemble forecasts at numerous conferences and workshops.

Meteorologist June 2009 – July 2013
Innovative Weather, Milwaukee, WI

- Produced client-based forecasts customized for the following industries: utilities, education, radio, transportation.
- Provided risk assessment and forecast dissemination for high impact weather events (severe storms, winter weather).

Research Assistant/Teaching Assistant 8/2011 - 7/2013
University of Wisconsin-Milwaukee, Milwaukee, WI

- Ran model simulations for collaborative project on meteotsunamis in the Great Lakes.
- Completed Masters research project on the predictability of convection initiation in the central high plains.

EDUCATION

Texas Tech University, PhD in Atmospheric Science - February 2017
Dissertation: Performance Characteristics of Convection-Allowing Ensemble Forecasts with Varied Physics.

University of Wisconsin-Milwaukee, Bachelors (Math Minor), Masters in Atmospheric Science - May 2011, 2013
Thesis: Assessing the Predictability of Convection Initiation Using an Object-Based Approach.

Certifications

Certified Consulting Meteorologist
American Meteorological Society, January 2019

Programming Experience

Advanced: Python (7 years), Matlab (5 years), Fortran (4 years), SQL (2 years).
Intermediate: R (1.5 years), LabVIEW (1 year), TensorFlow (0.5 years).

Data Science Experience

Advanced: Data mining (4 years), Time series forecasting (4 years), ML Regression modeling (2 years).
Intermediate: NLP (1 year), ML Classification modeling (0.5 years).

References

Ancell, Brian
Professor, Texas Tech University
806-834-3143 (office)

Coxworth, Ted
Senior Director of Analytics, Progrexion
801-512-9449 (personal)

Salem, Bassam
CEO, AtlasRTX
435-647-6262 (personal)

Shanahan, Mike
COO, Weatherbell Analytics
917-751-9695 (personal)