

Stephen H. Hallett

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- Education:** **The Pennsylvania State University | University Park, Pennsylvania** **August 2014 - May 2018**
 Bachelor of Science in Meteorology and Atmospheric Science
 Highly knowledgeable in Dynamic, Synoptic, Mesoscale, and Thermodynamic processes of the atmosphere
 Supplemented meteorology curriculum with coursework in data analysis, machine learning, and scientific writing
- Experience:** **Co-Founder and CTO | SunsetWx, LLC** **November 2015 – Present**
 sunsetwx.com
 - Co-founding member, developed proprietary algorithms forecasting global sunrise and sunset quality
 - Established a national partnership with The Weather Channel regarding use of data on multiple programs
 - Created individual news station forecasts used by 37 clients across North America
 - Assisted in building an API; scaled to support hundreds of millions of requests daily
 - Co-developed a mobile application to supplement website and API [expected release Q2 2018]
 - Data used in a Stanford University Publication "*Detecting and Predicting Beautiful Sunsets Using Social Media Data.*"
 - Presented at NCAR's 6th International Workshop on Climate Informatics
- Co-Founder and CTO | Innovation Weather, LLC** **November 2016 – April 2018**
 innovationwx.com
 - Co-founding member, developed proprietary algorithms across several industries related to risk mitigation
 - Worked with one of the largest confectionery conglomerates worldwide in forecasting frost formation
 - Worked with both domestic and worldwide corporations, including one of the largest citrus growers in the United States
 - Developed tools that have been shown to accurately forecast multi-million dollar agricultural frost and freeze events
 - Developed innovations in data-visualization regarding GRIB2 data utilizing the Google Maps API
- eWall Redesign Initiative | Penn State University** **March 2015 – Present**
 meteo.psu.edu
 - Used MySQL, Python, and regular expressions to build an enterprise-level monitoring system regarding the ingestion and processing of large datasets built on a phpMyAdmin backbone
 - Responsible for developing proprietary scripts resulting in the output of modernized images using the Grid Analysis and Display System (GrADS)
 - Incorporated synoptic and mesoscale model data, in addition to several climatology datasets in developing routines
- Consultant | TrueWx, LLC** **January – November 2017**
 truewx.com
 - Utilizing GrADS, developed complex algorithms to predict tornadogenesis and other severe weather parameters
 - Created one of the market's fastest GWDD Index utilizing the GFS, ECMWF, and ECMWF-ENS
 - Forecast for multiple clients across the United States, developed UKMET, GEFS, and CMC tropical plotting routines
 - Helped position company for rapid growth via product diversification into Numerical Weather Prediction and energy markets
- Intern, Meteorological Data Visualization | AccuWeather, Inc** **May – August 2016**
 accuweather.com
 - Working with Python and GrADS, overhauled routines for over 125 flagship products
 - Created several products visualizing parameters related to energy, commodities, agriculture, and transportation markets worldwide
 - Integral in the rebranding of AccuWeather's online visual presence for public and private clients
- Systems Administrator | Eastern PA Weather Authority, LLC** **July 2013 – May 2015**
 epawaweather.com
 - Improved website user experience via WordPress; implemented text-alert and membership system for clients
 - Collaborated with meteorologists in the production of daily forecasts across Pennsylvania and Delaware
 - Utilized Google Analytics and AdSense to strategically place ads and structure content to increase revenue and traffic
- Skillset:** **Computer Languages and Software Experience**
 - Proficient in Python, Bash/Shell scripting, The Grid Analysis and Display System (GrADS), and handling big-data
 - Knowledgeable in Machine Learning/Artificial Intelligence, WRF-EMS, Meteorological applications in GIS, Weka GUI/CMD
 - Experienced in System Administration of UNIX/LINUX (RHEL, Ubuntu, CentOS), LAMP/LEMP, and WordPress
 - Working knowledge of node.js, HTML, CSS, PHP, SQL, Java, MATLAB, GEMPAK, GRIB2, netCDF file formats
 - Self-taught in multiple computer languages, software applications, and composite algorithm creation

Personal:

Awards and Interests

- Awarded the Zed-X Weather Information Technology Award
- National Honor Society and Tri-M Music Honor Society Inductee
- Recipient of The Claire Marie and Jon Fanning Gifted Scholarship
- Awarded first place in a contest for a novel approach in training a neural network to identify radiative parameters
- Aviation, technology, astrophysics enthusiast, Alto/Soprano/Baritone Saxophonist, novice surfer and Chess player
- Current personal projects include fusing machine learning with meteorology in addition to algorithm development regarding cryptocurrency analysis