Alex B **Buettner**

alex.buettner93@gmail.com | 1108 S Shadesview Terrace, Homewood, AL 35209
+1 (702) 696-8458 | www.linkedin.com/in/alex-buettner

Education

Master of Science, Chemical Engineering

University of Nevada, Reno — Aug 2016 – Dec 2018

Clinical Dataset Analysis and Patient Outcome Prediction via Machine Learning

Bachelor of Science, Chemical Engineering

University of Nevada, Reno — Aug 2012 – May 2016

Process and Energy Emphasis. ***Minor:*** *Mathematics*

Experience

Big Data and Machine Learning

Senior Systems Programmer/Senior Big Data Engineer — *BBVA* — Apr 2020 – Present

- *Senior big data engineer and data team lead for the DWP project, working with a team of approximately two dozen developers and data analysts across three countries and two continents, on the creation and development of custom, best-in-class Salesforce platform, deployed to run the corporate and commercial bank, integrating data from over 20 bank systems.*
- *Project involved use of common big data solutions, including Hadoop and Spark, with development in both Scala and Python. Use of job scheduling tools for automation and batch processing, as well as monitoring and analysis.*
- *Role as team leader and manager, with compact groups of developers under my direct supervision. Weekly reporting to line of business and upper management to ensure project timelines are met.*

Consultant Big Data Engineer — *Everis/BBVA* — Jan 2019 – Apr 2020

- *Data engineering consultant with an emphasis in data ingestion and back-end management. Development of internal HDFS big data platform to centralize bank data and create new products and services for bank patrons and employees.*
- *Critical data delivery for a new bank product, Digital Work Place (DWP). The DWP application includes client management, pipeline development, and management of loan processes.*
- *Role included use of modern solutions and technologies such as Python, Scala, Spark, AWS, and Jupyter. Maintained role as as a data team lead for the DWP project, which includes responsibilities such as team management, sprint planning, and workflow optimization.*

Analysis, Characterization, And Prediction on Large Data Sets — *University of Nevada, Reno* — May 2017 – Dec 2018

- *Use of various machine learning methods for predictive analysis of large data sets, with an emphasis on dependency extraction. Performed data embedding and clustering on high-dimensional data for visualization and classification. Handled data using neural networks and conventional machine learning techniques.*

Scientific Computing

Computational Modeling and Simulation — *University of Nevada, Reno* — May 2014 – May 2017

- *Developed and assisted with the generation of inter-atomic pair potentials from density functional theory (DFT) and molecular dynamics (MD) simulations.*

Certifications

2021 **AWS Certified Cloud Practitioner Certification CLF-C01**
In Progress - Expected January

Software Skills

Machine Learning *Three years of experience using machine learning frameworks such as sklearn, TensorFlow, H2O, and Keras for high-throughput data analysis. Development of various machine learning methods in both supervised and unsupervised learning environments, including hidden Markov models, mixture models, feed-forward neural networks, generative adversarial networks, convolutional neural networks, and time-series predictive networks (LSTM). Further experience working with data cleansing, statistical analysis, feature selection, pre-processing, encoding, clustering, and decomposition methods.*

Big Data *Two years of experience working with Spark and other Apache products in big data settings. Deep understanding of Spark DataFrames and associated tools, as well as schema development and data partitioning. Experience designing, configuring, and maintaining HDFS filesystems and HPC backend components. Experience working with metadata stores,*

Python *Seven years of advanced studies using the Python language in various computing settings, including machine learning, big data engineering, application development, process support, and statistical modeling. Experienced in advanced numerical methods, multiprocessing, and object-oriented programming. Very comfortable with standard code editors such as Jupyter and PyCharm. Projects of note include process automation scripts for use in big data applications, machine learning pipelines with web APIs in production environments, design and configuration of customized small-scale agent-based modeling framework for use in research applications, and GUI development for specialized applications.*

Scala *Two years of Scala development experience as applicable to big data and data engineering projects. Implementation of custom objects, configurations, and applications for custom ingestion of batch data to feed front-end applications.*

AWS *One year of AWS experience designing cloud-based solutions. Some experience with CloudFormation and other infrastructure-as-code methodologies, as well as general AWS configuration and best-practices. Familiar with common web and application stacks and their implementation on AWS.*

Linux/Bash *Over 10 years of experience in setup and management of numerous Linux-based operating systems, including RHEL/CentOS, Ubuntu, and Debian. Five years of experience writing automated wrapper scripts for various optimization and simulation codes, with an emphasis in error handling and continuous processing. Two years of experience in direct configuration of HPC compute clusters. Use of BASH language for pre and post-processing of datasets and generating input scripts. Utilization of Awk and Sed utilities for advanced manipulation of text files and data files.*

Publications and Projects

2020 **AI and Machine Learning Enabled Personalized Learning Framework**
Personal Project, Current Work

2018 **Real-Time Clinical Process Optimization via Machine Learning and Big Data Analysis**
Masters Thesis

2015 **Interatomic pair potentials from DFT and molecular dynamics for Ca, Ba, and Sr hexaborides**
K.M. Schmidt, A.B. Buettner, O.A. Graeve and V.R. Vasquez, *J Mater Chem C*, 2015, **3**, 8649–8658.
DOI:10.1039/C5TC01398D