

Michael Natole, Jr., PhD

Principal Process Data Scientist
Regeneron Pharmaceuticals
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SUMMARY

- Data Scientist with strong math/statistics background and 3+ years of experience that can quickly adapt to the application domain.
- Strong analytical and problem-solving abilities, with a proven track record of using data and machine learning models to drive business decisions.
- Skilled in using a variety of programming languages and tools, including Python, R, SQL, and Power BI.

EXPERIENCE

Principal Process Data Scientist January 2024 - Present
Regeneron Pharmaceuticals, Rensselaer, NY

- Apply advanced numerical and statistical techniques including multivariate analysis, deep learning, and ensemble models to analyze large datasets of process and raw materials data to enhance process understanding.
- Apply data visualization tools and automated solutions to translate data into useful information for operations managers and process engineers.
- Played a key role in leading cross functional teams to analyze data sources and develop strategies and solutions for to support the manufacturing performance monitoring process and technical investigations.

Sr. Process Data Scientist July 2021 - December 2023
Regeneron Pharmaceuticals, Rensselaer, NY

- Streamlined data processes to better help colleagues assisting with investigations.
- Applied machine learning models to improve process understanding.
- Built a data science team to assist colleagues and provide future directions to leadership.

Adjunct Instructor January 2019 - May 2021
Hudson Valley Community College, Troy, NY

- Taught various introductory math courses.

Adjunct Instructor, Level II January 2018 - Present
Schenectady County Community College, Schenectady, NY

- Taught various freshman and sophomore level math courses in different modalities including in-person, online, and hybrid.
- I place an emphasis on building online courses that are accessible.

Teaching Assistant / Instructor / Lecturer August 2013 - May 2021
Mathematics Department, University at Albany, Albany, NY

TECHNICAL SKILLS

Hard Skills: Machine Learning (classification, regression, factor analysis, performance metrics), Data Analysis (acquisition, aggregation and reporting), Statistics, Design of Experiments

Soft Skills: Make complex technical concepts approachable for colleagues without expertise in technical domains; Strategize long-term scientific business goals; Self-motivated and ability to work autonomously.

Design Principles: FAIR (Findable, Accessible, Interoperable, Reusable) Practices, Data Governance, Good Manufacturing Practice (GMP)

Programing Languages: Python, MATLAB, R, LaTeX, HTML, CSS, Git, SQL

Tools: Dataiku, Tableau, Git, MS Office, JMP, SIMCA, Power BI, VS Code

PUBLICATIONS M. Natole, Y. Ying, A. Buyantuev, M. Stessin, V. Buyantuev, and A. Lapenis. Patterns of Mega-Forest Fires in East Siberia will become Less Predictable with Climate Warming. *Environmental Advances*, 2021.

M. Natole. Fast Optimization Algorithms for AUC Maximization *Dissertations & Theses @ SUNY Albany; ProQuest Dissertations & Theses Global*, 2020

M. Natole, Y. Ying, and S. Lyu. Stochastic AUC Optimization Algorithms with Linear Convergence. *Frontiers, in Applied Mathematics and Statistics*, 2019 .

M. Natole, Y. Ying, and S. Lyu. Stochastic Proximal Algorithms for AUC Maximization. *International Conference of Machine Learning (ICML)*, 2018.

PROJECTS *Wildfire Prediction Analysis:* Using climatic, anthropogenic, and landscape variables, determine the significant factors that lead to wildfires using spatial data.

TALKS & PRESENTED WORK *Pharmaceuticals from A Mathematician's View*
UAlbany Math Club
Albany, New York
April 2023

Fast Algorithms for AUC Maximization
Joint Mathematics Meeting (JMM)
Baltimore, Maryland
January 2019

Stochastic Proximal Algorithms for AUC Maximization
International Conference of Machine Learning (ICML)
Stockholm, Sweden
July 2018

Stochastic Proximal Algorithms for AUC Maximization
Graduate Mathematics Conference
Syracuse University
March 2018

AWARDS & RESEARCH SUPPORT *Travel Award*, July 2018
The award was used to attend the ICML conference in Stockholm, Sweden.

Outstanding Act of Service, 2016, 2018, 2019
Department of Mathematics, University at Albany

EDUCATION

Doctor of Philosophy, Mathematics
University at Albany, Albany, NY, May 2020

Master of Arts, Mathematics
University at Albany, Albany, NY, December 2015

Bachelor of Science, Mathematics
University at Albany, Albany, NY, May 2013

Associate of Science, Engineering Science
Fulton-Montgomery Community College, Johnstown, NY, May 2011