

# Michael Natole, Jr., PhD

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Sr. Process Data Scientist  
Regeneron Pharmaceuticals  
East Greenbush, NY

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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

*Sr. 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.

*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