Will Saulnier

Senior Data Analyst and Software Engineer

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An experienced and innovative leader in data science with a proven track record of driving strategic initiatives, building high-performing teams, and leveraging data-driven insights to achieve organizational goals. He specializes in machine learning, geospatial analysis, web application development, and remote sensing. Since 2022, Mr. Saulnier has utilized his highly specialized skillset to assist in developing a cutting-edge machine learning framework for a wetland prediction model for the North Carolina Department of Transportation.

PROFESSIONAL EXPERIENCE

KDV Decision Analysis LLC, Cary, NC (Remote)

Senior Data Analyst and Software Engineer (January 2026 – Present)

- Develop innovative techniques to extract information from remote sensing data
- Utilize machine learning models to predict natural resource occurrences
- Develop web applications for data interaction using R Shiny and Django

Ecosystem Planning & Restoration, Raleigh, NC (Remote)

Head of Data Science and Development (January 2021 – 2025)

- Provided leadership, project management, and supervision to a data science team
- Instructed team members in machine learning techniques and coding best practices
- Applied machine learning methodologies to model natural resources effectively
- Designed a gradient-boosted modelling tool that predicts wetland occurrences in the landscape using remote sensing data
- Implemented task and analysis automation using R and Python
- Pioneered interactive and user-friendly applications for clients to utilize machine learning models
- Developed web-based applications and dashboards tailored to client requirements
- Specialized in the development of R Shiny applications
- Tailored custom tools to meet specific client demands

Lead Data Scientist (April 2020 – December 2020)

- Conducted data analyses on publicly available spatial datasets to identify optimal stream and wetland mitigation areas for targeting
- Analyzed extensive natural resources datasets to assess streamflow duration
- Engineered automation routines to enhance spatial analysis efficiency within the company

Geospatial Analyst (April 2018 – March 2020)

- Utilized GIS software to pinpoint stream and wetland mitigation areas
- Conducted analysis of environmental and social data for projects compliant with NEPA regulations
- Implemented automation for geospatial analyses and mapping processes
- Produced cartographic materials for inclusion in reports

Virginia Tech, Blacksburg, VA

Graduate Research Assistant (August 2015 – December 2016)

- Conducted research on the utilization and availability of woody biomass for energy generation by analyzing and manipulating geospatial data in ESRI ArcGIS
- Created and maintained a database of professional logging operations for research purposes
- Instructed undergraduate and graduate students in ESRI ArcGIS and Microsoft Access applications regarding natural resources

Center for Natural Resources Assessment and Decision Support (CeNRADS), Blacksburg, VA

GIS Analyst (May 2015 – August 2015)

- Performed geospatial analysis in ESRI ArcGIS on the demands of wood fiber from forest products mills using large geospatial datasets, including the USDA Forest Service Forest Inventory and Analysis dataset

Virginia Tech, Blacksburg, VA

Graduate Research Assistant (January 2014 – May 2015)

- Conducted a landowner survey to examine the willingness to harvest of private landowners to provide an input into the CeNRADS wood fiber consumption model
- Created landowner mailing database utilizing ESRI ArcGIS and Microsoft Access with landcover and parcel data
- Entered survey data and performed statistical analysis on compiled data for publication, presentations, and reports
- Presented landowner survey findings to industry professionals, academic researchers, extension personnel, and private landowners at the Virginia Forestry Summit (May 2015)
- Instructed undergraduate students in the identification of woody plants in an interactive outdoor Dendrology course

EDUCATION

Master of Forestry — Virginia Tech, Blacksburg, VA

Bachelor of Science, Forest Resources Management — Virginia Tech, Blacksburg, VA

RELEVANT SKILLS

Programming: R (NumPy, SciPy, Rioxarray, GDAL, Geopandas, Pandas, etc.), Python, SQL, HTML, CSS

Machine Learning: scikit-learn, XGBoost, Keras, LSTM, Neural Networks

Geospatial & Remote Sensing: ESRI ArcGIS, QGIS, Remote Sensing analysis

Application Development: R Shiny, web-based dashboards, data visualization

Other: Effective Project Management, team leadership, client engagement

PUBLICATIONS

Kelso, J. E., Saulnier, W., Fritz, K. M., Nadeau, T.-L., & Topping, B. (2023). The stream intermittency visualization dashboard: A web application for high-frequency logger data and daily flow observations. Hydrological Processes, 37(2), e14809. https://doi.org/10.1002/hyp.14809

William J. Saulnier, M. Chad Bolding, Scott M. Barrett, and Stephen P. Prisley (2017). Characteristics of Virginia's Private Forest Landowners and Their Attitudes toward Harvesting. Forest Products Journal: 2017, Vol. 67, No. 1-2, pp. 69-80.