

Steven T. Manz III

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Education

Clemson University, Clemson, SC

M.S. in Electrical Engineering – Focus in Photonics and Applied Electromagnetics

Dec 2020

Coastal Carolina University, Conway, SC

B.S. in Applied Physics – Focus in Engineering and Mathematics

July 2018

Professional Summary

Data Scientist with a strong background in data analytics, machine learning, and project leadership. Proficient in Python, SQL, and data visualization tools such as Power BI and Tableau. Experienced in applying advanced data analytics techniques to solve complex business problems and drive operational efficiency. Skilled in collaborating with cross-functional teams and stakeholders to align goals and deliver impactful solutions.

Experience

Caterpillar, Clayton, NC

Data Scientist

Feb 2024 – Present

- Utilize advanced data analytics tools such as Power BI, Snowflake, Tableau, Python, and Excel to extract and analyze information from data lakes, driving data-driven decision making.
- Collaborate with cross-functional teams to integrate data analytics insights into operational strategies, enhancing efficiency and innovation.
- Develop automated dashboards for continuous monitoring and updates on current workflows, leveraging expertise in Python for data manipulation and analysis.
- Apply regression analysis techniques, including the RANSAC algorithm, to identify outliers and create accurate regression lines, ensuring data integrity and reliability.
- Implement a predictive model using Python and scikit-learn to forecast part costs based on numerical and categorical attributes, identifying opportunities for cost savings and optimizing procurement processes.
- Leverage Snowflake and Power BI to automate and visualize current task completion data, providing a comprehensive overview of workflow efficiency and identifying areas for process improvement.
- Develop full stack automation tools using Python, JavaScript, and HTML/CSS to assist engineers with data and time management, streamlining workflows and enhancing productivity.

Wolfspeed, Durham, NC

Electrical Engineer II

Jan 2021 – Feb 2024

- Led a team of junior developers in crafting a comprehensive solution to extract device parameters from specific layout designs, demonstrating strong project leadership skills.
- Developed and maintained MATLAB/Python scripts for data automation and device modeling, contributing to the formulation of a Physical Modeling Methodology for next-generation devices.
- Utilized SQL for comprehensive database management and efficient querying, ensuring data integrity and accessibility.
- Provided weekly and monthly reports to support project efforts and goals, showcasing strong communication and documentation skills.

Relevant Projects

Part Cost Prediction and Optimization (Python, Power BI)

Feb 2024 -- Present

- Developed a predictive model using Python and scikit-learn to forecast part costs based on numerical and categorical attributes, identifying opportunities for cost savings.
- Built an automated regression platform that selects the best regression model and pipeline based on cross-validation scores, ensuring optimal performance.
- Implemented hyperparameter tuning to further enhance the accuracy of the regression models, adapting to the specific characteristics of the provided data.
- Utilized Power BI to create interactive visualizations, enabling stakeholders to gain valuable insights into part cost trends and potential areas for optimization.

Task Completion Automation and Visualization (Snowflake, Power BI)

Feb 2024 -- Present

- Leveraged Snowflake and Power BI to automate and visualize current task completion data, providing a comprehensive overview of workflow efficiency.
- Identified bottlenecks and inefficiencies in task completion processes, recommending data-driven solutions for process optimization.
- Collaborated with cross-functional teams to implement process improvements based on the insights derived from the automated task completion visualization.

Email Detection and Movement Application (Python)

Jul 2022 – Present

- Created an email management application in Python, harnessing a range of libraries and tools for efficient operation, including PyQt5, PyTorch, Pandas, IMAPlib, SMTPlib, Email, BeautifulSoup, Flask, and Django.
- Employed Power BI for robust data interpretation and implemented a SQL database to meticulously track and manage email data for enhanced organization and analysis.
- Developed a neural network using a binary classification method, serving as an effective Machine Learning algorithm to classify emails as either Spam or legitimate, resulting in streamlined email sorting.

Automated Device Parameter Extraction Tool through KLayout API (Python)

May 2023 – Present

- Led a team of junior developers in the creation of a comprehensive solution for extracting device parameters from a specific layout design, showcasing strong leadership and collaboration skills.
- Developed a user-friendly front-end interface, enhancing user accessibility and enabling real-time adjustments to the layout.
- Engineered a robust system for generating and saving device parameters in JSON format, transforming the data into a structured SQL database for future development.

Relevant Skills

- Proficient in Python, SQL, Power BI, Tableau, and other data analytics and visualization tools
- Experience in applying advanced data analytics techniques, including Natural Language Processing, Machine Learning, and Computer Vision
- Strong project management skills, with the ability to manage multiple concurrent projects and collaborate with cross-functional teams
- Excellent communication and interpersonal skills, with the ability to advise stakeholders on analytical options and provide technical mentorship
- Keen interest in banking operations and regulations, with a quantitative approach to problem-solving