

senior data scientist ~ paccar msc analytics, msc mechanical engineering, bsc aerospace engineering

As a Senior Data Scientist in Paccar's Advanced Analytics organization, I develop and deploy AI/ML models to drive efficiency, reduce costs, and enhance business strategy. I manage and optimize pipelines, ensuring seamless data flow and scalable integration. In addition to leading technical projects, I provide mentorship to junior data scientists and guide teams in implementing advanced analytics solutions. By continuously exploring data, I identify trends, anomalies, and opportunities that inform better decision-making. My work sits at the intersection of programming and business impact, leveraging machine learning to transform raw data into actionable insights.

Experience

05/2024 – present **Senior Data Scientist**, *Paccar*, United States - Remote

09/2021–05/2024 **Data Scientist**, *Paccar*

Data Science:

- Lead data scientist for Paccar Financial data science projects. Developed and deployed models for financial product rates, sale price predictions, and inventory similarity detection. Managed Jira board, sprint planning, and executive stakeholder presentations.
- Led a data science and MLOps best practices workshop in the Netherlands for DAF, delivering technical presentations and guiding a team in root cause analysis of component failures.
- Designed and led workshops on end-to-end ML pipelines, covering GCP, Snowflake, model development, API deployment with FastAPI, Docker, and CloudRun, as well as CI/CD with GitHub Actions, git tagging, and DVC.
- Conducted drivetrain reliability analysis using Cox Proportional Hazards and Weibull distributions, developing Monte Carlo simulations to estimate business liabilities.

Machine Learning Operations:

- Developed CI/CD pipelines in GitHub Actions for scheduled model retraining, containerized deployment, and automated model promotion.
- Designed and implemented FastAPI services for model inference, deployed via Docker to GCP and AWS.
- Provided architectural reviews for contractor-led ML deployments, including Kafka-streaming-based warranty inference systems and VertexAI-based pricing products.
- Established logging pipelines from API logs in GCP to Snowflake for performance monitoring via Tableau dashboards.
- Trained MLOps Engineers on team deployment standards and continued advising on new implementations.

Leadership and Mentorship:

- Reviewed code and work from junior team members, setting development and coding standards.
- Led weekly data science team discussions and debugging sessions.
- GitHub administrator for Paccar's advanced analytics organization.
- Organized and led annual data science workshops for the analytics team.
- Won the 2022 and 2023 department hackathons, developing data-streaming solutions and Kafka-based enhancements to truck build data archiving.
- Develop and run annual data science workshop for Paccar's advanced analytic team.

Skills

- Programming: Python, SQL, Bash, Git, VBA, Java, Matlab, Fortran, R
- Data Science: Machine Learning, Natural Language Processing, LLMs, Generative AI, Deep Learning, Big Data Analytics, Time Series Analysis, Simulation, Bayesian Statistics, Regression, Computer Vision, Business Analytics, Tableau
- MLOps: GitHub Actions, Docker, GCP, FastAPI, Linux/WSL2, DVC, AWS
- Collaboration: Ideation and Project Development, Jira, Agile, Scrum, Software Testing, Product Management, Code Reviews, Pair Programming, Knowledge Transfer, Technical Presentations

Education

- 05/2024 **Master of Science in Analytics**, *Georgia Tech*
- Machine Learning, Simulation, Data and Visual Analytics, Business Data Analytics, Introduction to Modelling, Introduction to Computing, High Dimensional Data, Regression Analysis
- 05/2013 **Master of Science in Mechanical Engineering**, *North Carolina State University*
- 05/2011 **Bachelor of Science in Aerospace Engineering**, *North Carolina State University*

Other Careers

- 06/2018–09/2021 **Patent Examiner**, *United States Patent Office*, United States - Remote
- Reviewed and processed patent applications, ensuring compliance with federal laws and patent office standards.
- Examined patents related to gas turbines and combined cycle power plants, specializing in combustion systems and their controls.
- Provided technical expertise in aerospace and mechanical engineering fields to evaluate the novelty of patent claims.
- 12/2015–10/2017 **Operations Consultant**, *Chodort Training Center*, Zambia
- Designed and managed the construction of an off-grid solar kiln for sustainable production.
- Developed Excel-based management tools using Visual Basic for pricing, financial projections, and employee scheduling.
- Set up and managed a multi-business accounting system in QuickBooks.
- Led a lean manufacturing workshop to improve production quality and reduce cycle time.
- 01/2014–12/2014 **Teacher**, *Macha Central Basic School*, Zambia
- Developed lesson plans and instructed a class of 55 students in Math and Science.
- Started a computer club for students after refurbishing previously donated Linux desktops.
- Conducted computer skills workshops for teachers and community members.
- 09/2013–12/2013 **Avionics and Software Verification**, *HCL America*
- Performed and documented manual/automated software testing on aircraft fire suppression systems.
- Ensured compliance with FAA regulations for software considerations in airborne systems.

- 05/2012–12/2012 **Assembly Layout & Tooling, *GE Aviation***
- Designed assembly layouts for GEnx engine workstations, doubling production capacity and improving ergonomics.
 - Led lean manufacturing initiatives to reduce cycle time and improve continuous flow.
 - Developed innovative tooling and part kitting solutions, saving over \$30K annually.
- 05/2011–08/2011 **Manufacturing Standardization, *GE Aviation***
- Standardized manufacturing processes for high-volume jet engine components on mill, lathe, and CNC machines.
- 05/2010–08/2010 **Engineered Products Group, *ILC Dover***
- Designed and drafted custom tooling for soft goods engineering programs.
 - Provided engineering support and performed quality control checks on the aerostat manufacturing floor.
- 05/2008–12/2009 **HVAC Designer, *Crenshaw Consulting***
- Designed over 50 industrial and commercial HVAC systems, ensuring compliance with building codes and regulations.