Justin Childress

Data Engineer, Data Scientist, Aerospace Engineer
Knoxville, Tennessee
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Skills

Languages Python, SQL, MATLAB, LaTeX
Databases SQL Server, TSQL, BigQuery, Cloud Storage
Technologies Airflow, DBT, Docker, MS Office, Tableau, Tableau Prep, Power BI, Google Drive, ANSYS Fluent, Pointwise, AutoCAD, SolidWorks
Soft Skills Strong communication, cross-functional collaboration, initiative-driven, adept at communicating technical concepts

Experience

FreightWaves
Chattanooga, TN
Data Engineer
Mar. 2022 - Present
- Utilized Airflow to design and deploy automated pipelines for data ingestion and transformation
- Maintained over 110 DAGs in production in addition to legacy pipelines using google cloud functions and SQL stored procedures
- Collaborated with product and data science teams to produce insights into air cargo and logistic datasets
- Played major role in organizing and running team-building events to improve interdisciplinary collaboration

Consulting
Knoxville, TN
Data Engineer
Nov. 2024 - Present
- Contracted with commercial real estate data company to assist with customer integrations
- Designed and delivered custom python scripts to build spreadsheets from API calls

Mortgage Investors Group
Knoxville, TN
Business Analyst
Apr. 2020 - Mar. 2022
- Built and optimized operational dashboards in Tableau to monitor key performance metrics
- Automated data pipelines and API integrations using Python, accelerating reporting cycles

FreightWaves
Chattanooga, TN
Data Scientist
Jun. 2019 - Feb. 2020
- Promoted from intern to full-time data scientist within months due to rapid impact
- Supported a multimillion dollar client engagement
- Developed SQL transforms to deliver customer facing analytics

Research

Data Science of Fluid Mechanics Research Project
University of Tennessee
Graduate Student
2023
- Developed python program to analyze videos of flame fronts
- Extracted data on temperature gradients and determined regions steady state behavior
- Investigated feasibility of fully visual techniques when traditional measurement techniques are impractical
- Utilized Fourier Transforms to identify dominant frequencies and combustion characteristics of flow

Rocket Nozzle Heat Transfer Analysis
University of Tennessee
Graduate Student
2017
- Modeled nozzle geometry and generated a computational mesh using Pointwise
- Simulated high-energy gas flows using ANSYS Fluent to assess thermal stress and material limits
- Defined constraints to safely test experimental rocket nozzle

Novel Propellants for Hybrid Rockets
University of Tennessee
Undergraduate Student
2016
- Co-designed and operated a small-scale hybrid rocket thrust stand
- Authored safety and test documentation to support future research teams

Education

Master of Science in Aerospace Engineering
Knoxville, TN
University of Tennessee, Knoxville
May 2024
- Focus on Computational Fluid Dynamics, Data Science, Numerical Methods

Bachelor of Science in Aerospace Engineering
Knoxville, TN
University of Tennessee, Knoxville
August 2016