# 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, 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 techincal concepts

## Experience

### FreightWaves
*Chattanooga, TN*
Data Engineer
*Mar. 2022 - Present*
- Utilized Airflow to design and deploy automated pipelines for data ingestion and transformation
- 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 comupational 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*