

Jake Haines

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Education

North Carolina State University, BS Statistics

Raleigh, NC

Major: Statistics | **Minors:** Computer Science, Music Technology

August 2021 – May 2025

Coursework: Proof-based Linear Algebra, Probability, Natural Language Processing, Python for Data Science, Statistical Computation & Data Management, Applied Data Analysis, Computer Vision, Database Management Systems, Data Structures, Object-Oriented Programming, Independent Research in Statistics, Research Methods, Recording Studio Practicum, Audio Engineering

Activities: Data Analytics Club member, Automotive Club member, collegiate division e-sports team member

Experience

Tesla

Palo Alto, CA

Data Engineering Intern

August 2022 – February 2023

- Managed big data pipelines handling 8 months of granular sensor data from 100k vehicles in Airflow, reduced query time by 52%
- Built dashboard visualizing sensor and firmware data from Airflow pipeline (plotly, Tableau API, PostgreSQL, Spark), increasing firmware deployment frequency
- Performed ETL using SQL queries to analyze big data on 10mil rows from 100k vehicles (PostgreSQL, Pyspark, Spark, pandas, plotly)

Tesla

Fremont, CA

Research & Development Intern

May 2022 – August 2022

- Improved supplier vitals sensing accuracy by 76% through testing and data analysis (pandas, numpy, plotly, scikit-learn)
- Collection and ETL of vitals sensing, CAN, geospatial, Raspberry Pi sensors in Python (pandas, numpy, plotly, Mapbox),
- Research design and execution of user experience studies for early-stage NDA projects (pandas, scipy, scikit-learn)
- Authored technical documentation, visuals, and Gantt chart for studies, code, and databases (Clickup, Sharepoint, Visio)
- Built 6 NDA proof-of-concepts with potential implementation to over 250k production vehicles

Startup

London, UK

Cofounder & Data Engineer

April 2023 – Present

- Built and managed AWS and Firebase infrastructure (PostgreSQL, IAM, RDS, EC2, Lambda, Firestore) with 0 expense
- Generated over 600 waitlist signups in first month of publicity, featured on *There's An AI For That*, available on Testflight
- Authored 10 research papers for features built from research-backed executive dysfunction management strategies

Eagle Parts & Products

Augusta, GA

Data Engineering Intern

May 2021 – August 2021

- Restructured data for migration by automating data entry, reducing labor time required by 50%
- Data cleaning, parsing, and ETL on 15k rows of unstructured inventory data in Python (pandas, regex)

University of North Carolina at Asheville

Asheville, NC

Traffic Flow Research

January 2021 – May 2021

- Collected traffic flow data via TensorFlow object detection model containerized in Docker on Raspberry Pi
- ETL in SSIS and Microsoft SQL Server Management reducing 7mil rows of data to 5k rows
- Data mining, analysis, and visualization in Tableau and presented research at 2 universities

Skills

Programming Languages: Python, SQL, Bash, Linux

Python Libraries: Beautiful Soup, Keras, Matplotlib, Numpy, OpenCV, Pandas, Plotly, Pyspark, Scikit-learn, Tensorflow

Database Tools: Airflow, Firestore, Hadoop, Microsoft SQL Server, Postgres, RDS, Spark

Technologies: AWS (EC2, IAM, Lambda, RDS), Docker, Firebase, Git, Github, Jira, Jupyter, Tableau, Visio

Skills: big data, data science, data engineering, data visualization, music production, audio engineering, automotive engineering

Interests: data engineering, music, audio, machine learning, travel, aviation, traffic infrastructure, transit