

Darsh Kale

651-468-8735 | darshpkale@gmail.com | github.com/Dkale0 | <https://dkale0.github.io/>

EDUCATION

University of Minnesota - Twin Cities

Bachelor of Science in Computer Science | GPA: 3.6

Minneapolis, MN

2019 – 2023

Relevant Coursework *Machine Learning, Artificial Intelligence, Data Structures and Algorithms, Databases*

University of Minnesota - Twin Cities

Bachelor of Science in Statistics | GPA: 3.6

Minneapolis, MN

2019 – 2023

Relevant Coursework *Time Series Analysis, Regression Techniques, Statistical Computing, Theory of Statistics*

EXPERIENCE

Foresight Strategy - Data Analyst Intern

Statistical Consulting Firm

June 2022 – Sep. 2022

Minneapolis, MN

- Implemented a searchable text corpus database for over **5000+** **project proposals** of varied formats (.pdf, .pptx, etc.) extracted from OneDrive using scheduled Python scripts
- Employed **NLP (NLTK, Spacy, and KeyBERT)** for text summarization, frequency analysis, and keyword extraction
- Worked directly with clients in a consulting setting, utilizing descriptive statistics, data visualization, and client and USDA API data to convey actionable insights and recommendations for optimal gardening practices

Gopher Motorsports - Software Developer

UMN Formula SAE (Co-Curricular)

Sep. 2020 – Jan. 2023

Minneapolis, MN

- Led the development of a **full-stack Django application** to streamline vehicle configuration tracking with real time feedback and inventory management
- Utilized PostgreSQL for data storage, integrated CRUD operations and data analysis capabilities
- Implemented DevOps practices by leveraging GitHub Actions for CI/CD, and Dockerized applications
- Developed **real-time failure prediction** and monitoring for key components of race vehicles

PROJECTS

Data Pipeline for Time Series | Portfolio Website: <https://dkale0.github.io/>

- Designed and implemented a data pipeline that collects monthly time series data from multiple sources, including FRED, US Census, AlphaVantage, and SEC Edgar, utilizing their respective APIs
- Utilized Airflow within a Docker container to orchestrate the pipeline as a single DAG, ensuring compliance with API rate limits by limiting parallelism
- Employed **AWS Lambda for ETL** tasks to extract, transform, and load CSV data from an S3 bucket into AWS Timestream, facilitating SQL querying and supporting data analysis, including inflation forecasting

Forecasting Inflation with Temporal Fusion Transformers

- Forecasted multi-step YOY growth rate of CPI using economic and demographic time series data
- Conducted preprocessing to ensure stationarity, data validation, MinMax scaling, and feature engineering
- Implemented TFT model with **PyTorch-forecasting**, combining traditional time series techniques with Transformers (DNN). Optimized hyperparameters with **Optuna framework** and outperformed baseline

Other: SEC Filings Web Scraper, US Elections Predictions, Handwritten Characters Classification ...

TECHNICAL SKILLS

Programming Languages: Python, Java, C/C++, JavaScript, R, SQL (Postgres), Linux

Web Development: HTML, CSS, JavaScript, Django, Flask

Tools & Technologies: Git, Power BI, AWS (S3, Lambda, EC2), Docker

Other Skills: OOP, Agile Development, CI/CD, Unit & Integration Testing

Certifications: AWS Cloud Practitioner Certified