HENRY GROVES

hengro44@gmail.com | 07392 072855 | github.com/hengrv | linkedin.com/in/hengrv

Education

Further Study, University of Newcastle upon Tyne **2023-2027**
- **M.Sc.+B.Sc.** (Hons) Computer Science

A Levels, Pontefract New College, Pontefract **2021-2023**
- **A Levels:** Mathematics (**A***), Further Mathematics (**A**), Computer Science (**A**), Physics (**A**)
- **EPQ:** "To what extent will quantum computing replace high performance computing in computational biology?" (**A**)

GCSEs, Carleton High School, Pontefract, West Yorkshire **2016-2021**
- **GCSEs:** 5 **9**'s, 3 **8**'s
- **BTECs: D*2**, **D2**

Work Experience

Northern Powergrid

- ***Data Scientist (DSO)*** **May-September 2025**
  - Built a graph-based **simulation tool** to model high-voltage power networks, in both normal and abnormal conditions.
  - Used historical and real-time data to simulate network and asset performance with a bottom-up approach, rather than a top-down approach previously used for such analysis.
  - Tool uses future scenarios to account for the different ways the power grid may evolve looking to 2050.
- ***Data Scientist (DSO)*** **May-September 2024**
  - Designed and architected an end-to-end **machine learning** solution to predict short-term distribution substation load.
  - Built a **robust**, **efficient** and **scalable** data pipeline to ingest **half-hourly** meter readings from ~ 800 substations, filling gaps using AKIMA and lag-based methods.
  - Used DTW K-Means **clustering** to find load profiles; proved that models trained on one member of the cluster can effectively predict all members.
  - Designed and tuned both **TCN** and **BiTCN** neural-networks, for each cluster, with carefully selected **exogenous features** boosting model performance.
  - Wrote a formal research paper outlining my work and findings to present at *CIRED*.
- ***Data Analyst (System Forecasting)*** **May-August 2023**
  - Combined numerous data sources with **SQL** and **Python** scripting to design and implement a statistical model for predicting the demand of almost **4 million** customers on low-voltage electrical distribution networks.
  - Created a dashboard in Excel from the output, and created visualizations for presentations to the wider team and executives.
  - Extracted and processed data for, and collaborated with other colleagues on regulatory submissions under very tight deadlines whilst also working on the model.

Projects

"Biggmarket" - Item swapping app promoting sustainability

Built a full-stack item-swapping web application designed to promote sustainable consumption. Built using Next.js, TypeScript, tRPC, Tailwind CSS and backed by a PostgreSQL with Prisma, the app uses a "swipe left-right" interface, with real-time user messaging, authentication via Google OAuth, and a comprehensive user review system.

"CLAuDE" - Accessible and modular GCM (Global Climate Model)

Project manage a large-scale open-source climate model CLAuDE (Climate Analysis using Digital Estimations), written in Python. The project's focus is on simplicity and approachability for use as a learning tool. Manage contributions, versioning, packaging and community engagement, whilst also writing simulation code and CI/CD pipelines.

Key Skills

- Problem-Solving
- Attention to Detail
- Procedural Thinking
- Software Development
- Machine Learning and AI
- Data Exploration & Analysis

Programming Languages / Frameworks:
- Python 3
- Rust
- R
- numpy / pandas / scikit
- tensorflow / pytorch
- matplotlib / seaborn
- C/C++
- TypeScript
- React.JS / Next.JS
- Java

Additional Technologies:
- GNU/Linux
- LaTeX
- Git / GitHub
- SQL (PostGreSQL)
- MongoDB
- HTML/CSS
- tailwindcss
- Access / Excel

Languages:
- English (Native)
- German (B1)