Sam Ellis

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Experience

Graduate Data Engineer — *Experian, Nottingham/Remote* Sep **2023** — **Present**

Completed two successful graduate rotations in the Database Services Team (present) and Ascend Data Science Team:
- **Migration to Git/Bitbucket** — migrated team projects to Git and Bitbucket, significantly enhancing revision control practices and collaboration within the team. This mitigated the drift between project codebases and facilitated the alignment of development and production environments.
- **Tooling for data analysts/scientists** — introduced and developed a Python 'toolkit' package for internal and client use, comprising reusable functions to streamline workflows and ensure consistency across projects.
- **Automated backend workflows** — leveraged AWS services (EMR, Glue, Lambda, SQS, SNS) to build event-driven data delivery processes for stakeholders.

Graduate Data Analyst — *Experian, Nottingham/Remote* Sep **2022** — Aug **2023**

Completed two successful graduate rotations in the Data Insights Team and Business Data Team:
- **Automation** — streamlined data workflows and internal reporting with Snowflake, significantly reducing manual efforts and human errors in the process.
- **Data visualisation** — designed, developed, and maintained interactive Tableau dashboards for internal stakeholders to support next financial year strategies.
- **Tooling** — developed tools to convert semi-formatted textual data into JSON for Splunk, enabling effective visualisation of this data.

Education

MSc Computer Science — *University of Nottingham* Sep **2020** — Dec **2021**

Graduated with distinction (first-class equivalent).
Modules include: MSc Research Project; Conceptual Programming; Data Modelling and Analysis; Databases, Interfaces and Software Design Principles; and Systems and Networks.

BEng Chemical Engineering — *University of Birmingham* Sep **2017** — Jun **2020**

Graduated with first-class honours.
Modules include: Mass, Heat and Momentum Transfer; Principles of Process Control; Process Integration and Unit Operations; Product Design Exercises; and Sustainable Process Engineering.

A-Levels — *The South Wolds Academy and Sixth Form* Sep **2015** — Aug **2017**

Achieved three A grades in biology, chemistry and maths and an A* grade in music.

Skills

Tools

Tooling — Excel, Snowflake, Splunk, Tableau, Vim
Infrastructure — AWS, DigitalOcean
Revision Control — Git, GitHub
Frameworks — Snowpark, Spark/PySpark

Languages

Proficient — Python, SQL
Familiar — Lua, Shell Scripting
Working Knowledge — Go
Web — Angular2, CSS, HTML, Tailwind

Projects

audionaut.io (ongoing) — A website to display pricing information for various plugin companies. Every day, a catalogue of prices is generated and visualised so users can make informed purchasing decisions using historical data trends.

MSc Research Project — Focused on 'Predicting Keystrokes using an Audio Side-Channel Attack and Machine Learning', this project developed a keylogger to map keystroke signals to their emanation to create a supervised dataset. Multiple datasets were evaluated using state-of-the-art machine learning approaches, achieving up to an 89% keystroke recovery accuracy from a 40-key classification problem. The research introduced a novel cross-prediction method that significantly enhanced keystroke identification rate.

Design Project — Designed a pectin manufacturing process capable of producing 142 tonnes of pectin per annum from raw waste orange peel. The project involved an oral presentation focusing on the pectin process design; cash-flow analysis; piping and instrumentation diagrams; and an individual technical design on a distillation column.