Enda Flynn

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Baconstown, Enfield, Meath, A83 HH39, Ireland

Education

University College Dublin — Dublin, IE
M.Sc. in Data Analytics, 4.0 GPA (to date) — 2021 - Present

- Studying towards my part-time Masters in Data Analytics since September 2021.
- Results include: Introduction to Data Analytics - A. Data Programming in R - A+. Data Programming with C: A+. Data Programming with SAS: A. Inference for Data Analytics: A-. Statistical Machine Learning: A-.

Technological University Dublin — Dublin, IE
B.Sc. in Mathematical Sciences, First Class Honours (240 ECTS) — 2015 - 2020

- Thesis: "Affine Term Structure Models"
- Received the John M Forde Medal for Mathematical Sciences for achieving highest results at degree level. Overall final mark: 86.3%
- My final year thesis was accepted for presentation at the 3rd Annual SURE 2020 Conference which began with an opening address from the Minister for Further and Higher Education, Research, Innovation and Science, Simon Harris, T.D. and took place on October 16 2020.
- Modules Include: Mathematical Modelling, Statistics I/II/III, Regression Modelling I/II, Survival Analysis, Financial Mathematics I/II, Linear Algebra I/II, Calculus/Analysis, Programming, and Algorithms, Data Structures and Management.

Experience

Allied Irish Banks (AIB) — Dublin, IE
Data Scientist - Group Financial Crime Compliance — August 2022 - Present

- Leading and designing the workstream for Detection Scenatio Tuning to improve FPRs, reduce duplication, adjust thresholds, and identify main drivers of risk using EDA, machine learning, and explainable AI techniques. As part of this workstream I manage two direct reports.
- Pioneering the ongoing development of a machine learning model to detect money mule activity. The model has an accuracy rate of 97%.
- Developing an ETL pipeline with Python to extract data from multiple databases, process each as necessary using a modular approach, validate them, and combine them into a single standardised data format for automatic transfer into the NetReveal system for investigation. This pipeline took the place of an older manual process which was prone to human error and took up to a week of work from several individuals to complete.
- Developing a 'one-click' Python program to automate the gathering, processing, and presentation (in the form of professional-quality data visualisations and formatted tables) of all key monthly MI reporting. This has received widespread praise and I have been consulted by other teams intending to implement similar programs.

Central Bank of Ireland — Dublin, IE
Collateral Policy Analyst - Financial Markets Division — April 2022 - August 2022

- Duties included: Analysing data in Excel, R, and Power BI to prepare reports on the liquidity of the Irish domestic banks which were then sent to senior management.
- Various value-add projects such as automating laborious daily and weekly inbox operations on my team with Python programs which, prior to my leaving, were being considered for division-wide use following the increase in productivity.

Associate Supervisor - Asset Management & Pensions — October 2020 - April 2022

- Duties included: Financial statement analysis, software testing, engaging with and challenging senior management in several of Europe's largest asset managers.
- Analysing data in R, Excel and Power BI to present easily understandable visualisations of various regulatory returns issued to the Central Bank by regulated firms. Also conducted trend analysis on line items such as debtors and creditors in order to identify outliers and periodic movements.

Authorisations Associate — February - August 2019

- Duties included: Analysing data for the Central Bank of Ireland's 2018 Demographic Analysis report which was featured in both The Irish Times and RTE News.

Skills

- **R:** Extensive experience using R to fit regression models (simple, multiple, logistic, Poisson), perform different types of analyses (ANOVA, block, factorial, survival, random effects), and interrogate data throughout my undergraduate statistics, regression, and survival analysis modules. Through my MSc, I have gained additional experience with classes, object-oriented programming, and machine learning.
- **Python:** Advanced knowledge of Python programming (both functional and OOP) for extracting data from databases, manipulating and validating data, performing modelling and analyses with packages such as NumPy, SciPy, pandas, scikit-learn, BorutaPy, and SHAP. I have also architected large modulated programs which are easily maintainable and intelligible to less experienced programmers.
- **SQL:** Advanced knowledge of using SQL to create databases, execute efficient queries, and combine data sources.
- **Other:** Familiar with SAS, MATLAB, Jupyter Notebooks, LaTeX, markdown, C, and C++.

Projects

See partial list of projects on my GitHub (https://github.com/endaflynn198/). Note that I am in the process of migrating projects to my GitHub page from my personal files so not all projects are represented on this page, and neither are my work projects for intellectual property reasons.

- **Imputer**

  A sophisticated library which can run multiple imputation experiments on complete or corrupted data in order to find the optimal imputation strategy for a particular dataset. This was the end-product of a long period spent studying OOP in Python and wishing to apply this to work-related problems.

- **Boox Annotation Processor**

  Provides a solution for processing annotations from a Boox e-ink device. It converts the annotations into a formatted markdown output that can be easily imported into note-taking and personal knowledge base (PKB) applications like Obsidian. The repository was very popular when first posted on Reddit and remains frequently cloned.

- **Irish Weather Analysis**

  An example of my advanced EDA and modelling skills in Jupyter.

- **Asynchronous Downloader Tool**

  Tool to download user-specified media (.mp4, .webm, etc.) to a specified folder from a given website link. Makes use of requests, BeautifulSoup and concurrent.futures libraries. Asynchronous implementation allows the simultaneous download of large volumes of files.

- **Book Depository Webscraper**

  Program to scrape data on bestsellers from the Book Depository website (now closed) for further analysis. Similar programs exist on GitHub, but my implementation has a wider scope and more robust error handling.