



Senior Data Science Manager

Department:	Protection
Reports to:	Head of Data Strategy and Pricing
Job Family:	
Career Family / Job Capsule:	
Key dimensions:	
Direct Reports	Three direct reports
Committee/Board membership(s)	
Approved Senior Manager Function(s), Prescribed or Other Overall Responsibilities and/or any Certification Function(s)	
Purpose of the role: <ul style="list-style-type: none">• To undertake complex analytical processes taking structured and unstructured data, cleaning and processing it to inform and support efficiency and growth initiatives – driving value in pricing models and across all OneFamily business areas• To design, develop and deploy predictive and prescriptive models using advanced machine learning, underpinned by developing accuracy and assurance tools• Focussed on adding value through modelling future business data requirements and identifying and quantifying data value	



Key accountabilities:

- Work with stakeholders (internal and external) to ensure data is up to date, accurate and compliant with all data protection requirements.
- Understand business challenges and opportunities and identify where data and insight can drive commercial value
- Provide impactful, purposeful, and commercially focused insight and analysis, sometimes under tight timescales, and constantly adhering to best practice guidelines and QA frameworks
- Develop and deliver analytics reporting and dashboards as required
- Communicate knowledge, insight and recommendations with clarity and conviction, and in a tailored, outcome-orientated way.
- Support team and stakeholders and other analysts in the development of analysis, MI, reports and dashboards, as required.
- Line manage team of 3 data scientists and machine learning engineers
- Constantly implement all activities in line with agreed budgets and timescales.

Skills / Experience / Knowledge:

- Ability to code in multiple languages but with extensive experience in Python and SQL. Experience with R, Hadoop, Spark, NLP(TK) is desirable.
- Advanced machine learning capability, including:
 - Programming: data structures (stacks, queues, multi-dimensional arrays, trees, graphs, etc.), algorithms (searching, sorting, optimization, dynamic programming, etc.), computability and complexity (P vs. NP, NP-complete problems, big-O notation, approximate algorithms, etc.)
 - Data modelling: finding useful patterns (correlations, clusters, eigenvectors, etc.) and/or predicting properties of previously unseen instances (classification, regression, anomaly detection, etc.)
 - Model evaluation: e.g. validation accuracy, precision, recall, F1-score, MCC, MAE, MAPE, RMSE, PCC2
 - Application of ML algorithms and libraries: identification of a suitable model (e.g. decision tree, nearest neighbour, neural network, SVM, etc.), selecting a learning procedure to fit the data (e.g. linear regression, gradient descent, genetic algorithms, bagging, boosting), controlling for bias and variance, overfitting and underfitting, missing data, data leakage, among others
- Advanced mathematical knowledge, including:
 - Basis of algebra: matrices and linear algebra, algebra of sets
 - Probability: theories (conditional probability, Bayes rule, likelihood, independence) and techniques (Naive Bayes, Gaussian Mixture Models, Hidden Markov Models)
 - Statistics: (descriptive: mean, median, range, SD, var, analysis of variance: ANOVA, MANOVA, ANCOVA, MANCOVA); Multiple regression, time-series, cross-sectional; Multivariate techniques: PCA and factor analysis)



- Stochastic Processes: Markov chains, queuing processes; Poisson processes, random walks
- Time Series Analysis: eg. Holt-Winters, ARIMA processes and stationarity; frequency domain analysis
- Generalized linear model; any of: log-linear models; logistic regression, probit models, Poisson regression, elastic nets
- Hypothesis testing: formulation of hypotheses; types of error; p-values; common parametric (z, t, F) or non-parametric (χ^2 , Mann-Whitney U, Wilcoxon, Kolmogorov-Smirnov)
- Comfortable working in cloud-based environments (e.g. ADO, AWS)
- Understanding of data protection and GDPR as part of their role
- Understanding of personal responsibility to data and the inherent risks associated with it. Ability to recognise the difference between a data risk and a data issue and how to escalate it through management.
- Understanding of the importance of the data strategy to OneFamily and how it drives commercial outcomes
- Understanding of where they sit within the data community, and the expectations of the business around data literacy.
- Proactively sharing of knowledge with others. Mentor and seek mentoring to continuously improve data literacy.
- Understanding of the data culture of the organisation. Highlight improvement opportunities to improve the culture
- Understanding of the importance of articulating confidence limits, errors, measures of uncertainty
- Understanding of the importance of translating requirements into simple effective outputs the business needs and can use.
- Understanding of the key requirement to manage, maintain and amend data product libraries. as understanding and requirements evolve
- Understanding the importance of QA, peer review, UAT.

Personal attributes:

- Commercial creativity & awareness
- Strong sense of personal accountability
- Integrity & strength of character
- Ambitious, forward thinker, rigorous and quality-conscious
- Confident, self-motivated, with exceptionally strong communication skills

Values

Define who we are as OneFamily. They come from the beliefs we hold, the way we behave and how we want to work together for our customers. For OneFamily this means being:

- Principled



	<ul style="list-style-type: none"> • Courageous • Effective <p>Our values are unique to our brand. They give us purpose and focus. They are vital in helping us all 'do the right thing'. If we are confident that we are true to our values, then we can be sure that we are doing the best for our customers.</p>
Adaptability	This job description is intended to provide a broad outline of the main responsibilities only. The post holder is required to be flexible in developing their role in agreement with their Line Manager. In addition, they may be required to carry out any other duties deemed appropriate within the role and expertise.
Performance Management	All employees have a responsibility to participate in regular one to ones with their manager and to identify performance standards of the post. As part of the performance management process every employee is responsible for participating in identifying their own training and development needs to meet the requirements of their role.
Health and Safety	Employees must be aware of the responsibilities placed on them under Health and Safety at Work Act 1974 and take reasonable care for the health and safety of themselves and of other people who may be affected by their acts or omissions at work.
Equality and Diversity	The Society is committed to building an environment where the diversity of its employees is valued, respected and seen as an asset to enabling delivery of the best possible service to our customers and colleagues. It is unlawful to discriminate directly or indirectly in recruitment or employment because of any of the nine 'protected characteristics' contained in the Equality Act 2010. These are age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex, and sexual orientation. Failure to comply with organisational policies on equality and diversity may result in disciplinary action.
Confidentiality	The unauthorised use or disclosure of customer or other personal information is regarded as gross misconduct and will be subject to disciplinary procedures, and could result in a prosecution for an offence or action for civil damages under the General Data Protection Regulations. (GDPR).

Regulatory
<ul style="list-style-type: none"> • To comply, at all times, with all regulatory, statutory and legislative requirements so far as they relate to the role • To abide by the Rules of the Society at all times • To understand and comply with all Group Governance Policies, as appropriate to the role • To deliver all apportioned accountabilities and responsibilities



Individual Conduct Rules	
Rule 1	You must act with integrity
Rule 2	You must act with due skill, care and diligence.
Rule 3	You must be open and cooperative with the FCA, the PRA and other regulators.
Rule 4	You must pay due regard to the interests of customers and treat them fairly.
Rule 5	You must observe proper standards of market conduct.
Rule 6	You must act to deliver good outcomes for retail customers.

Senior Conduct Rules	
SC1	You must take reasonable steps to ensure that the business of the firm for which you are responsible is controlled effectively
SC2	You must take reasonable steps to ensure that the business of the <i>firm</i> for which you are responsible complies with the relevant requirements and standards of the regulatory system.
SC3	You must take reasonable steps to ensure that any delegation of your responsibilities is to an appropriate person and that you oversee the discharge of the delegated responsibility effectively.
SC4	You must disclose appropriately any information of which the <i>FCA</i> or <i>PRA</i> would reasonably expect notice.

Declaration	
I confirm I have read and understood the content of this Job Description and I accept the content as an accurate description of the role I am required to perform.	
Job holders full name:	
Job holders signature:	
Date:	



Version Control:

Final	Date	Reviewer
	21 st November 2024	Jose Cruz da Angela