|  |  |
| --- | --- |
| Job title: Games Mathematician  | Location: UK |
| Function: Product and TechReports to: Mathematician Manager | No. of direct reports: NoneNo. of non-direct reports: N/A |
| Budgetary responsibility: N/A | NGR/P&L: N/A |
| Purpose of role |
| We’re Entain. Our vision is to be the world leader in sports betting and gaming entertainment by creating the most exciting and trusted experience for our customers, revolutionising the gambling space as we go. We're home to a global family of more than 25 well-known brands, and with a focus on sustainability and growth, we will transform our sector for our players, for ourselves and for the good of entertainment.As a Mathematician, you will leverage your mathematical expertise to design, analyse, and implement algorithms, models, and game mechanics that enhance player experiences and contribute to the success of our gaming products.  |
| Key responsibilities |
| 1. Design, develop, and implement mathematical algorithms that form the foundation of game mechanics, ranging from combat systems to character interactions and progression models.
2. Collaborate closely with game designers and developers to ensure seamless integration of mathematical concepts into gameplay features.
3. Assist in creating algorithms that manage probabilities, rewards, challenges, and other interactive elements to ensure balanced and rewarding player experiences.
4. Participate in fine-tuning gameplay mechanics for optimal challenge and engagement.
5. Apply mathematical models to simulate and predict various in-game dynamics, including player behaviour, virtual economies, resource allocation, and more.
6. Contribute to refining and validating models based on real-world player data and feedback.
7. Utilize data analytics to extract insights from player interactions, gameplay trends, and preferences, translating these insights into actionable strategies.
8. Collaborate with data analysts to enhance the accuracy and impact of mathematical models.
9. Ensure the accuracy and reliability of mathematical calculations and algorithms, maintaining high standards throughout the game's development.
10. Work collaboratively with cross-functional teams to align mathematical concepts with the overall vision of the game.
11. Utilize programming languages commonly used in game development, such as Python, C++, or similar, to implement mathematical algorithms and mechanics.
12. Stay updated on industry trends, advancements in mathematical concepts, and emerging technologies relevant to the gaming industry.
 |
| Specialist skills and experience |
| Essential: * Competent in Statistical Analysis, able to collect and interprets data in order to uncover patterns and trends.
* A deep understanding of statistical concepts and techniques is necessary to build accurate models for predicting outcomes, assessing risks, and optimizing strategies. Data Analysis, Interpreting, cleaning, transforming, and deriving meaningful insights from complex datasets using statistical, computational, and visualization techniques to inform decision-making and drive actionable outcomes.
* Experience in Data Modelling, creating structured representations (models) of an organization's data to depict relationships, entities, attributes, and constraints, facilitating clear understanding and efficient management of data within databases or information systems.
* Proficient in Programming/Scripting, the process of writing instructions for computers to perform specific tasks or operations, enabling automation and software development.
* Good understanding of the betting and gaming industry, including different types of games, sports betting, online casinos, regulations, and trends.
* The ability to identify challenges, analyse situations, and develop effective solutions to overcome difficulties or achieve desired outcomes.
* The ability to understand, analyze, and make informed decisions based on business and financial insights, considering market dynamics, profitability, and strategic implications to drive successful outcomes.
* The ability to collaborate, working together in a coordinated and cooperative manner to achieve a common goal or complete a shared task.

Desired:* Good knowledge in the Software Development Lifecycle, the planning, designing, coding, testing, deploying, and maintaining software applications, ensuring a systematic and efficient approach to development.
* Good understanding of Regulatory Compliance relevant to role, develops, enforces, implements and practices regulatory compliance activities to ensure compliance to legislative and regulatory requirements.
* Good knowledge of Ethical Considerations related to gambling and gaming products and their potential impact on users.
* Proficient in Risk Management, identifies, evaluates and manages risks by developing and implementing risk management strategies, frameworks, policies, procedures and practices
 |
| Competencies / behaviours |
| This part of the job description summarises the behaviours necessary to succeed in the role.   * Collaboration: Communicates effectively with a positive impact
* Analytical thinking: Thinks critically, providing well-reasoned insights through a commercial lens.
* Agility: Quickly adapts and remains flexible while managing risks
* Acts with integrity: Takes ownership and does the right thing.
 |
| Diversity and equal opportunities: As a global employer, Entain is committed to providing a safe, fun, and inclusive culture where our people feel like they truly belong.We are a multicultural business that values, celebrates and respects individual differences, so whatever your sexuality, gender, gender identity, ability, age, race, religion or belief, you will have a voice here, and the space to do your best work.Our diverse internal networks provide the support for you to express your views and make a positive difference, all for the good of entertainment. |