

Optimizing Spam Filtering With Machine Learning

Define Problem / Problem Understanding

Business Requirements

A business requirement for an SMS spam classification system would include the ability to accurately identify and flag spam messages, protect customers from unwanted or harmful messages, and comply with industry regulations and laws regarding spam messaging. Additionally, the system should be able to handle a high volume of messages, integrate with existing systems and databases, and provide reporting and analysis capabilities to track performance and improve the system over time. The system should also have an easy-to-use interface and be easy to maintain and update.

Business requirements for spam detection and filtering typically include the following:

1. **Accuracy:** The spam detection and filtering system needs to accurately identify spam messages while minimizing false positives (legitimate messages being flagged as spam) and false negatives (spam messages not being detected). The business requirement should specify the desired accuracy rate and any acceptable rates of false positives and false negatives.
2. **Speed:** The spam detection and filtering system should be able to process large volumes of email traffic quickly to avoid delays and ensure timely delivery of legitimate messages. The business requirement should specify the desired processing speed and any acceptable delays.
3. **Scalability:** The spam detection and filtering system should be able to handle increasing volumes of email traffic without compromising accuracy or speed.

The business requirement should specify the expected growth rate and any scalability requirements.

4. Integration: The spam detection and filtering system should be seamlessly integrated with the email system to ensure that flagged messages are appropriately handled (e.g., sent to a spam folder). The business requirement should specify the integration requirements and any integration challenges.
5. User experience: The spam detection and filtering system should not impact the user experience negatively. The business requirement should specify that the system should not cause unnecessary delays or inconvenience to users.
6. Compliance: The spam detection and filtering system should comply with relevant regulations and industry standards, such as the General Data Protection Regulation (GDPR) and the CAN-SPAM Act. The business requirement should specify the compliance requirements and any legal or regulatory implications.
7. Cost: Finally, the spam detection and filtering system should be cost-effective and provide a good return on investment. The business requirement should specify the budget and any cost-saving measures.