The goal of the project was to develop analytical models that can predict the open rate and click through rate of email campaigns, thereby providing actionable recommendations for Mailchimp users to boost their campaign performance. Throughout the project, we worked at the Data Science Content team under the umbrella of Product department at Mailchimp.

**PROJECT SCOPE**

**TIMELINE**

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**PIPELINE & METHODS**

**Open Rate Modeling**

- XGBoost: 76% AUC
  - Explainable decisions
  - Robust generalization
  - Non-linear relations
  - Highly sparse inputs
  - Computational expensive

**Click Rate Modeling**

- XGBoost: 82% AUC
  - Highly powerful
  - Highly flexible
  - Not easily interpretable

**DNN: 73% AUC**

- Very powerful
- Highly flexible
- Not easily interpretable

**DNN: 78% AUC**

- Combine images, text, numbers
- Efficient training
- Interpretation is challenging

**ANALYSIS & INSIGHTS**

**Open rate**

- Be thoughtful with your subject line - use less stop words and emojis
- Tailor your campaign to a smaller segment of your audience

**Click through rate**

- Visual appearance of your link matters more than where you put it - use a button or image!
- Know your subscriber behavior

**Use cases**

- Provide benchmarking report to inform users on their performance among peers
- Give actionable recommendations before the user sends off his email

**NEXT STEPS**

The results achieved provide Mailchimp with advanced analytics tools that empower users significantly on the company’s existing status quo. Suggested next steps include:

- Collect granular data on subscriber behaviors, such as their tenure with the user, activity level, etc.
- Fine tune models with additional features and enhance prediction performance to arrive at a good product prototype
- Negotiate with product managers to get ready for launching new relevant product features