Customers of Tracfone Inc. draw from diverse and vibrant backgrounds. For example, they may be proudly pragmatic who appreciate good value mobile service plans. Alternatively, they may be travelers that are temporarily visiting friends or family or forming new memories on their vacation to take home with them. They may even belong to financially fragile communities that have traditionally been under served by the large wireless providers that required credit checks and long-term contracts. Ever since our inception in 1996, our focus has always been on providing coverage and access for all.

Tracfone公司的客户来自不同的、充满活力的背景。例如，他们可能是自豪的实用主义者，欣赏物美价廉的移动服务计划。或者，他们可能是临时探访朋友或家人的旅行者，或在假期中形成新的记忆，带回家。他们甚至可能属于经济脆弱的社区，这些社区传统上没有得到大型无线供应商的服务，因为他们需要信用检查和长期合同。自1996年成立以来，我们的重点一直是为所有人提供覆盖和访问。

TracFone Inc. was a pioneer in the USA market to offer mobile phones and plans without extensive credit requirements, making smartphones accessible to a wider part of the community.

TracFone公司是美国市场上提供移动电话和计划的先驱，没有广泛的信用要求，使社会上更多的人能够使用智能手机。

The USA Emergency Broadband Benefit Program provides support for broadband services and certain devices to help low-income households stay connected during the COVID-19 pandemic.

美国紧急宽带福利计划为宽带服务和某些设备提供支持，帮助低收入家庭在COVID-19大流行期间保持联系。

On December 27, 2020, the Consolidated Appropriations Act, 2021 became law and established an Emergency Broadband Connectivity Fund of $3.2 billion in the United States Treasury to help Americans afford internet service during the pandemic. The Act directed the Federal Communications Commission (FCC) to use the fund to establish an Emergency Broadband Benefit Program (EBB Program), under which eligible low-income households may receive a discount off the cost of broadband service and certain connected devices, and participating providers can receive a reimbursement for such discounts.

2020年12月27日，《2021年综合拨款法案》成为法律，并在美国财政部设立了32亿美元的紧急宽带连接基金，以帮助美国人在大流行期间负担互联网服务。该法案指示联邦通信委员会（FCC）使用该基金建立紧急宽带福利计划（EBB计划），根据该计划，符合条件的低收入家庭可以获得宽带服务和某些连接设备费用的折扣，而参与的供应商可以获得这种折扣的补偿。

The FCC adopted the rules and policies creating and governing the EBB Program on February 25, 2021. The Commission’s Wireline Competition Bureau, other Commission staff and the Universal Service Administrative Company (USAC) are overseeing and administering the processes and systems needed for the EBB Program.

FCC于2021年2月25日通过了创建和管理EBB计划的规则和政策。委员会的有线竞争局、委员会其他工作人员和普遍服务管理公司（USAC）正在监督和管理EBB计划所需的程序和系统。

The Emergency Broadband Benefit (EBB) Program will provide a discount of up to 50 per month for broadband services for eligible consumers. Consumers who live on qualifying Tribal lands can receive enhanced support of up to 75 per month toward broadband services.

紧急宽带福利（EBB）计划将为符合条件的消费者提供每月高达50的宽带服务折扣。住在符合条件的部落土地上的消费者可以获得每月高达75美元的宽带服务强化支持。

Many Tracfone Inc customers signed up for and currently benefit from the EBB program, by receiving discounts and enhanced support. However, many more are either unaware or uninformed of the fact that they might qualify and benefit for the EBB program. This challenge has a strong social value, as it is aimed at discovering Tracfone Inc customers who would qualify for the program, but, they are currently still paying full price for their phone/broadband service.

许多Tracfone公司的客户注册了EBB计划，并从该计划中受益，获得了折扣和更多的支持。然而，更多的人没有意识到或不知道他们可能有资格享受EBB计划并从中受益。这项挑战具有很强的社会价值，因为它旨在发现有资格参加该计划的Tracfone公司客户，但他们目前仍在为其电话/宽带服务支付全额费用。

**Objective**

The 22.2 challenge is to use machine learning to predict customers who can qualify for the EBB program. It is a 1 class classification problem. Two data sets will be provided: EBB, and a mixed set EBB and non-EBB.

22.2挑战是使用机器学习来预测能够符合EBB计划的客户。这是一个单类分类问题。将提供两个数据集。EBB，以及EBB和非EBB的混合集。

If we can accurately predict which customers qualify for EBB but they are not currently using it, we can proactively help those customers taking advantage of the program. This is a great social initiative to help low-income or no-income households stay connected in line with TracFone’s mission of coverage and access for all!

如果我们能准确预测哪些客户符合EBB的条件，但他们目前没有使用，我们就可以积极主动地帮助这些客户利用该计划。这是一个伟大的社会倡议，帮助低收入或无收入的家庭保持连接，符合TracFone覆盖和访问所有人的使命!

## How to load data

Data can be loaded, as an example, with pandas

图形用户界面, 文本, 应用程序

描述已自动生成

Two training set are available, ebb\_set1.csv and ebb\_set2.csv. You can use either or use their union to train your models. The ebb sets contains positive cases - customers that are ebb eligible, and unlabeled cases (customers that could be either ebb\_eligible or not). Positive cases (ebb eligible) are marked with 1.0 in the ebb\_eligible column, while unlabeled (ebb\_eligible or not)cases are marked with a NaN in the same column. **This is a classic one-class machine learning problem.**

有两个训练集可用，即ebb\_set1.csv和ebb\_set2.csv。你可以使用其中之一或使用它们的联合来训练你的模型。ebb集包含阳性案例--符合ebb条件的客户，和未标记的案例（可能是符合ebb条件的客户，也可能不是）。阳性案例（符合bbb条件的）在bbb\_eligible一栏中被标记为1.0，而未被标记的（无论是否符合bbb条件）案例在同一栏中被标记为NaN。这是一个典型的单类机器学习问题。

Ebb sets contain all basic data for customers. We are giving competitors acces to more customer data in these files:

Ebb集包含了客户的所有基本数据。我们让竞争对手在这些文件中获得更多的客户数据。

1. Activations //激活
2. auto\_refill //自动填充
3. deactivations // 停用
4. deprioritizing //取消优先权
5. interactions //互动
6. ivr\_calls // ivr\_calls

// ivr\_calls:交互式语音应答（IVR）是一种自动电话系统技术，允许来电者通过预先录制的信息的语音应答系统获取信息，而不必与座席人员交谈，也可以通过触摸式键盘选择或语音识别来利用菜单选项，将他们的电话转到特定部门或专家。

1. lease\_history //租赁历史
2. loyalty\_program //忠诚度计划
3. network //网络
4. notifying //通知
5. phone\_data //电话数据
6. reactivations //重新激活
7. redemptions//救赎，赎回
8. support //支持
9. suspensions//暂停
10. throttling //节流

These data frames are in "long table" format - i.e. there are multiple rows per each customer\_id. You will need to perform some feature engineering and reduce "long tables" into data frames with one row per customer\_id. **You will then join your engineered feature data frame to the main data frames ( ebb\_set1.csv and ebb\_set2.csv ) using customer\_id as join key.**

这些数据框架是 "长表 "格式--即每个客户\_ID有多条记录。你将需要执行一些特征工程，并将 "长表 "减少到每个客户ID只有一行的数据框架中。**然后，你将把你设计好的特征数据帧连接到主数据帧（ebb\_set1.csv和ebb\_set2.csv），使用customer\_id作为连接键。**

In the 'long format' data frames, some features have been masked using categorical coded variables ( "A", "B", to "AAA", "AAB", etc.) to protect customers' privacy.

在 "长格式 "数据框架中，一些特征已经用分类编码变量（"A"，"B"，到 "AAA"，"AAB"，等等）掩盖了，以保护客户的隐私。

The data sets for evaluation are contained in eval\_set.csv and related "long format" data frames. Eval set "long format" data frames have to be feature engineered using the same method used for training set. You will score the eval sets adding a column ebb\_eligible; ebb\_eligible will have a value of 1 if you predict that case to ebb eligible, and a 0 otherwise (customer is not ebb\_eligible)

用于评估的数据集包含在eval\_set.csv和相关的 "长格式 "数据框中。评估集的 "长格式 "数据帧必须使用与训练集相同的方法进行特征设计。你将在评估集中加入一列ebb\_eligible；如果你预测该案例符合ebb条件，ebb\_eligible的值为1，否则为0（客户不符合ebb\_eligible）。

# Submission

Each team is invited to make a daily submission of their predictions using the evaluation dataset. Every night an automated job will take the latest submission (if present), run the scoring and populate the leader board on the TracHack website the next morning.

A team can make a submission for the day by placing their predictions as a CSV file named with the submission date in the YYYY-MM-DD format inside the submission folder within their environment. For example the file submission/2022-04-01.csv will contain the team’s submission from 1st of April 2022. While teams are not required to submit every day, regular submissions are very useful to get feedback on how the teams are progressing.

TracHack 22.2: For TracHack22.2 the CSV must contain comma separated values with header customer\_id and ebb\_eligible flag. It should consist of one single entry for each customer from the evaluation dataset and respective predicted ‘ebb-eligible’ flag with either 1 (ebb eligible) or 0 (not ebb eligible).

customer\_id,ebb\_eligible

f51707b140d8fa3b0d6859c49112f60357131de7,1

ac774c4943118044e3ddbee2b36b141afeb1f7a0,0

e0c8a12f5daed65cfe2d433301fcbb629327368f,0

6675321499dd530d3b4390e271310503884e36f9,1

704f7c7d12f01bd6c611d04e9a1cbbd4440ebb87,1

e0de51552bc30f3922a32bc7b3fedb88e817f8cf,0

2d41975b9822abe3da1e96701fa3fbb8c64985e8,1

48e23686428c704d10fe7d937f218b2f40055bd8,0

2249549952a441a7c54fac4819f322fbe39356c5,0

c7527cd7fd2c98f1973e60d62ce4c1eb67ddd3ef,1

etc.

NOTE: You must make a prediction for ALL line\_ids in the eval dataset for the submission.

Final Code Submission

When it is time to get ready for the final submission for TracHack, there are a couple of things you should do:

1. Submit your predictions as a submission CSV file. Teams will produce a submission with filename: yyyy-mm-dd-final.csv to be saved in the submission folder.
2. Consolidate all of your code (data prep, feature selection, model training and prediction, etc) into a single jupyter notebook and call it mlcode.ipynb. Save this inside the code folder. It is VERY important that your code reproduces the submission. We will use that notebook to reproduce your submission predictions. If these do not match, then your submission will not be considered valid.

Final Submission for Trachack 22.2 is due on April 17th 11:59 PM, EDT (April 18th 01:59 PM, New South Wales DST Time, UTC+10, or, April 18th 05:59 AM, Spain Time, Central Europe DST, UTC+2)

Good luck on your Trachack challenge!,

The Tracfone Trachack Team.

# 参加EBB资格

## 消费者资格

### 已加入生命线或其他服务提供商计划的消费者

已经参与生命线计划的消费者有资格直接加入 EBB 计划，无需提交新的 EBB 计划申请。参与其他服务提供商计划的消费者也可能有资格直接注册 EBB 计划。例如，提供低收入或 COVID-19 救济计划的服务提供商获得 FCC 对其替代资格验证流程的批准，可以直接将参与这些计划的消费者纳入 EBB 计划。但是，服务提供商必须在将消费者注册到 EBB 计划之前获得消费者的肯定同意。

### 基于收入的资格

如果消费者的家庭年总收入等于或低于 [联邦贫困线](https://www.usac.org/wp-content/uploads/lifeline/documents/handouts/Income_Requirements.pdf)的 135%，则他们可能有资格获得 EBB 计划支持的服务。访问我们的[收入资格](https://www.usac.org/about/emergency-broadband-benefit-program/application-and-eligibility-resources/household-eligibility/income-eligibility/) 页面以查看收入资格图表。

如果他们的家庭自 2020 年 2 月 29 日以来收入大幅减少，消费者也可以参加 EBB 计划。经历失业或休假并报告 2020 年家庭收入为或低于 99,000 美元（单一申报者）或 198,000 美元（联合申报者）的家庭有资格参加。

### 基于计划的资格

如果消费者有资格获得 Lifeline 或符合 Lifeline 资格的计划（例如 SNAP 或 Medicaid），则他们可能有资格获得 EBB 计划支持的服务。如果消费者参加了符合 EBB 计划的计划，例如免费和减价的学校午餐计划或学校早餐计划，他们也可能有资格获得紧急宽带福利。访问 [计划资格](https://www.usac.org/about/emergency-broadband-benefit-program/application-and-eligibility-resources/household-eligibility/program-eligibility/) 页面以查看符合条件的计划的完整列表。

### 获得增强支持的资格

除了可能提供的任何一次性设备折扣外，居住在符合条件的部落土地上的 EBB 计划订户每月可获得高达 75 美元的宽带服务折扣。无论他们如何有资格参加 EBB 计划，他们都可以获得增强的部落福利。[消费者可以在我们的消费者网站](https://getemergencybroadband.org/do-i-qualify/tribal-benefit/)上了解更多关于增强部落福利的信息。

### 每个家庭一份服务福利和一份设备福利

家庭是指居住在同一地址并分享收入和家庭开支的任何人。USAC 和 FCC 承认可能有不止一个家庭居住在同一地址。[消费者可以在我们的消费者网站](https://getemergencybroadband.org/do-i-qualify/what-is-a-household/)上查看示例。

[家庭工作表](https://www.usac.org/wp-content/uploads/about/documents/ebb-program/Application_Docs/EBB-Household-Worksheet-FINAL.pdf)（[西班牙家庭工作表](https://www.usac.org/wp-content/uploads/about/documents/ebb-program/Application_Docs/EBB-Household-Worksheet-SPANISH-FINAL.pdf)）必须在一个居住地址的多个订户收到 EBB 计划支持的服务或设备报销时，或者当新消费者在一个地址申请服务或设备时，必须填写已经是获得 EBB 计划福利的订户。

### 家庭资格

家庭可以通过证明其至少一名家庭成员符合以下标准**之一，才有资格获得紧急宽带福利：**

符合 FCC[生命线计划](https://www.usac.org/lifeline/)的资格，包括那些参加 Medicaid 或接受 SNAP 福利的人，

在 2019-20、2020-21 或 2021-22 学年获准免费或减价学校早餐/午餐计划，包括通过美国农业部社区资格规定，

自 2020 年 2 月 29 日以来，经历了记录在案的大量收入损失，2020 年的家庭总收入对于单一申报者而言低于 99,000 美元，对于联合申报者而言则低于 198,000 美元，

在当前奖励年度获得联邦佩尔助学金，**或**

有资格参加参与的提供者现有的低收入或 COVID-19 救济计划，但须经 FCC 批准该提供者的资格流程。

紧急宽带福利仅限于每个符合条件的家庭每月一次服务折扣和一次设备折扣