# Expanding

In this lesson, you will generate customer service emails that are tailored to each customer's review.

## Setup

```
In [1]: import openai
        import os

        from dotenv import load_dotenv, find_dotenv
        _ = load_dotenv(find_dotenv()) # read local .env file

        openai.api_key  = os.getenv('OPENAI_API_KEY')
```

```
In [2]: def get_completion(prompt, model="gpt-3.5-turbo",temperature=0): # Andrew mentioned that the prompt/ completion
            messages = [{"role": "user", "content": prompt}]
            response = openai.ChatCompletion.create(
                model=model,
                messages=messages,
                temperature=temperature, # this is the degree of randomness of the model's output
            )
            return response.choices[0].message["content"]
```

## Customize the automated reply to a customer email

```
In [3]: # given the sentiment from the lesson on "inferring",
        # and the original customer message, customize the email
        sentiment = "negative"

        # review for a blender
        review = f"""
        So, they still had the 17 piece system on seasonal \
        sale for around $49 in the month of November, about \
        half off, but for some reason (call it price gouging) \
        around the second week of December the prices all went \
        up to about anywhere from between $70-$89 for the same \
        system. And the 11 piece system went up around $10 or \
        so in price also from the earlier sale price of $29. \
        So it looks okay, but if you look at the base, the part \
        where the blade locks into place doesn't look as good \
        as in previous editions from a few years ago, but I \
        plan to be very gentle with it (example, I crush \
        very hard items like beans, ice, rice, etc. in the \
        blender first then pulverize them in the serving size \
        I want in the blender then switch to the whipping \
        blade for a finer flour, and use the cross cutting blade \
        first when making smoothies, then use the flat blade \
        if I need them finer/less pulpy). Special tip when making \
        smoothies, finely cut and freeze the fruits and \
        vegetables (if using spinach-lightly stew soften the \
        spinach then freeze until ready for use-and if making \
        sorbet, use a small to medium sized food processor) \
        that you plan to use that way you can avoid adding so \
        much ice if at all-when making your smoothie. \
        After about a year, the motor was making a funny noise. \
        I called customer service but the warranty expired \
        already, so I had to buy another one. FYI: The overall \
        quality has gone done in these types of products, so \
        they are kind of counting on brand recognition and \
        consumer loyalty to maintain sales. Got it in about \
        two days.
        """
```

```
In [4]: prompt = f"""
You are a customer service AI assistant.
Your task is to send an email reply to a valued customer.
Given the customer email delimited by ```, \
Generate a reply to thank the customer for their review.
If the sentiment is positive or neutral, thank them for \
their review.
If the sentiment is negative, apologize and suggest that \
they can reach out to customer service.
Make sure to use specific details from the review.
Write in a concise and professional tone.
Sign the email as `AI customer agent`.
Customer review: ```{review}```
Review sentiment: {sentiment}
"""
response = get_completion(prompt)
print(response)
```

Dear Valued Customer,

Thank you for taking the time to leave a review about our product. We are sorry to hear that you experienced an increase in price and that the quality of the product did not meet your expectations. We apologize for any inconvenience this may have caused you.

We would like to assure you that we take all feedback seriously and we will be sure to pass your comments along to our team. If you have any further concerns, please do not hesitate to reach out to our customer service team for assistance.

Thank you again for your review and for choosing our product. We hope to have the opportunity to serve you better in the future.

Best regards,

AI customer agent

## Remind the model to use details from the customer's email

```
In [5]: prompt = f"""
You are a customer service AI assistant.
Your task is to send an email reply to a valued customer.
Given the customer email delimited by ```, \
Generate a reply to thank the customer for their review.
If the sentiment is positive or neutral, thank them for \
their review.
If the sentiment is negative, apologize and suggest that \
they can reach out to customer service.
Make sure to use specific details from the review.
Write in a concise and professional tone.
Sign the email as `AI customer agent`.
Customer review: ```{review}```
Review sentiment: {sentiment}
"""
response = get_completion(prompt, temperature=0.7)
print(response)
```

Dear valued customer,

Thank you for taking the time to leave a review about our 17 piece system. We are sorry to hear that you experienced a price increase and that the quality of the product has decreased. We apologize for any inconvenience this may have caused.

We understand that this can be frustrating and we would like to offer our assistance. If you have any further concerns or questions, please do not hesitate to reach out to our customer service team. We are always here to help.

Thank you again for your feedback, and we hope to have the opportunity to serve you better in the future.

Best regards,

AI customer agent.

```
In [6]: resume="""Ismet Okan Celik
        646-708-5811 | Woodside, NY 11377 | ismetokancelik@gmail.com | linkedin.com/in/okancelik1/
        Data Scientist • Data Analyst •
        Result-driven Master's in Applied Artificial Intelligence graduate with a background in project management exper
        in Python C++, SQL, AI frameworks, data analysis, and visualization to extract key insights and trends from comp
        support business decisions. Developed various predictive statistical, and machine learning models for applicatio
        brain tumor detection, store sales prediction, stock price prediction, and music recommendation. Possesses excel
        management, team building, leadership, problem-solving, process improvement, and cross-functional collaboration

        EDUCATION
        Stevens Institute of Technology, Hoboken, NJ 01/2023
        Master of Engineering, Applied Artificial Intelligence.
        Course Work: Applied Machine Learning, Deep Learning, Applied Modeling and Optimization, Big Data, Pattern Recog
        Engineering Programming: Python
        Karadeniz Technical University, Trabzon, Turkey 06/2016
        Bachelor of Science, Mechanical Engineering.

        SKILLS
        Programming Languages: Python, SQL, MATLAB, C++
        Technical Skills: AI Frameworks (TensorFlow, Keras), Data Analysis (Pandas, NumPy, Scikit-learn), Visualization
        Seaborn, Plotly, Tableau), Data Mining, Web Scraping, OpenCV, Git, Jupyter Notebook, Anaconda, Google Colab, Spa
        Certifications: IBM Data Science Professional Certificate (In Progress), OpenCV for Python, Git Essential Traini

        EXPERIENCE
        Bahar Water Treatment Systems, Tekirdag, TURKEY. 08/2017 to 07/2018
        Project Engineer
        • Delivered 10 projects to clients, each one meeting or exceeding expectations, and reduced the error rate by 20
        resulting in higher client satisfaction and reduced costs associated with rework
        • Spearheaded all planning, production, and delivery phases on projects with budgets ranging from $112.5K to $1.
        • Formulated and implemented project plans, including schedules and resource allocation for seamless functionali

        Bahar Water Treatment Systems, Tekirdag, TURKEY. 02/2017 to 08/2017
        Production Engineer
        • Trained and supervised production staff to enhance workforce capacity and assessed and monitored projects to r
        value, increase cost, and improve quality as much as possible
        • Collaborated with cross-functional teams to improve efficiency of manufacturing processes, increased efficienc
        15%, and reduced material waste by 5% by implementing new manufacturing procedures

        ACADEMIC PROJECTS
        Human Face Expression Detection System Fall 2022
        • Created various convolutional neural network (CNN) architectures to address multi-class image classification i
        and developed prediction model which successfully identifies human face expression with 85% accuracy
        Store Sales Prediction Spring 2022
        • Deployed data visualization techniques to examine data using Matplotlib and Seaborn on Python
        • Established ARIMA Model, Linear Regression, and XGBoost Regression models for time-series forecasting
        Music Recommendation System Spring 2022
        • Performed feature engineering and feature selection methods and developed Matrix Factorization, Logistic Regre
        Decision Tree, Random Forest, Gradient Boosted Tree, and Ensemble Learning algorithms in Apache Spark environmen
        Brain Tumor Detection Fall 2021
        • Executed K-Nearest Neighbor(KNN), Support Vector Machine(SVM) , and Naïve Bayes models on Python.
        • Evaluated classification performance of these machine learning algorithms, and algorithm 97% successfully dete
        brain tumors
        Raspberry Pi Smart Door With Face Recognition Fall 2021
        • Programmed face recognition algorithm via OpenCV library on Python. Built a circuit on a breadboard by using
        Raspberry Pi GPIO pins. Designed a system to unlock a door if a camera and raspberry pi system detect previously
        registered faces in system"""
```

```
In [8]:  job_description="""Data Analyst

Job Overview

We are looking for a Data Analyst to join our Data and Analytics team. You will support the entire organization

About Afficiency

Afficiency is a rapidly growing Insurtech startup whose mission is to provide life insurance to everyone on the

What We're Looking For

· 3-7 years' experience in a data analytics role preferred

· Bachelor's Degree in a highly numerate major (Math, Stats, Econ, Finance, etc.) or relevant experience in data

· Proficiency in SQL and Excel required; experience with Python or R desirable

· Passion for understanding Afficiency's business end-to-end, what the numbers mean, and proactivity to develop

· Ability to create data visualizations, reports, dashboards, and data audits

· Writing complex queries to analyze enormous dataset and provide analysis, reports, and historical performance

· Strong problem-solving skills, allied with track record of transforming data into actionable business insight

· Strong personal organizational and time management skills

· Experience working in groups and leading projects with a passion

· Roll-up-the-sleeves attitude to get things done both individually and with the help of others across the organ

· Ability to think independently and to find solutions with limited guidance

· Contribute to client-facing deliverables presenting and explaining the results of analyses, and providing appr

· Deep attention to detail but with the ability to think bigger picture

· Strong written and oral communication skills"""
```

```
In [14]:  # formating_spec="""
          # Name Font Size: 14
          # Section Headers Font Size: 12
          # General Font size: 10
          # """
```

# Try experimenting on your own!

```python
In [20]: prompt_1 = f"""
You are a career coach.
Your task is to optimize resumes based on job descriptions, requirements and qualifications.
Given the job descriptions, requirements and qualifications delimited by ```, \
Generate a resume that will be highly matches with the job.
Make sure resume passes the Application Tracing System.
Application Tracing System (ATS) parses a resume's content into categories and then scans it for specific and re

Write the resume in a concise and professional tone.
Don't change the format of the resume.

Based on matched keywords, Score for Resume with Job Description between 0 and 100:
```
Score Here
```


Resume: ```{resume}```
Job Description: ```{job_description}```


"""

response = get_completion(prompt_1)
print(response)
```

Score for Resume with Job Description: 75

Ismet Okan Celik
646-708-5811 | Woodside, NY 11377 | ismetokancelik@gmail.com | linkedin.com/in/okancelik1/
Data Analyst

Result-driven Master's in Applied Artificial Intelligence graduate with a background in project management experience. Skilled in Python, SQL, and data analysis to extract key insights and trends from complex data to support business decisions. Possesses excellent project management, team building, leadership, problem-solving, process improvement, and cross-functional collaboration skills.

EDUCATION
Stevens Institute of Technology, Hoboken, NJ 01/2023
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Course Work: Applied Machine Learning, Deep Learning, Applied Modeling and Optimization, Big Data, Pattern Recognition,
Engineering Programming: Python
Karadeniz Technical University, Trabzon, Turkey 06/2016
Bachelor of Science, Mechanical Engineering.

SKILLS
Programming Languages: Python, SQL
Technical Skills: Data Analysis (Pandas, NumPy, Scikit-learn), Visualization (Matplotlib, Seaborn), Git, Jupyter Notebook, Anaconda
Certifications: OpenCV for Python, Git Essential Training

EXPERIENCE
Bahar Water Treatment Systems, Tekirdag, TURKEY. 08/2017 to 07/2018
Project Engineer
• Delivered 10 projects to clients, each one meeting or exceeding expectations, and reduced the error rate by 20%, resulting in higher client satisfaction and reduced costs associated with rework
• Spearheaded all planning, production, and delivery phases on projects with budgets ranging from $112.5K to $1.1M
• Formulated and implemented project plans, including schedules and resource allocation for seamless functionality

Bahar Water Treatment Systems, Tekirdag, TURKEY. 02/2017 to 08/2017
Production Engineer
• Trained and supervised production staff to enhance workforce capacity and assessed and monitored projects to raise value, increase cost, and improve quality as much as possible
• Collaborated with cross-functional teams to improve efficiency of manufacturing processes, increased efficiency by 15%, and reduced material waste by 5% by implementing new manufacturing procedures

ACADEMIC PROJECTS
Store Sales Prediction Spring 2022
• Deployed data visualization techniques to examine data using Matplotlib and Seaborn on Python
• Established ARIMA Model, Linear Regression, and XGBoost Regression models for time-series forecasting

As a Data Analyst, I am highly skilled in Python and SQL, with experience in data analysis and visualization. I possess excellent project management, team building, leadership, problem-solving, process improvement, and cross-functional collaboration skills. My experience in project engineering and production engineering has honed my ability to deliver projects meeting or exceeding expectations, reduce error rates, and improve efficiency. My academic project in store sales prediction demonstrates my ability to deploy data visualization techniques and establish models for time-series forecasting. I am passionate about understanding Afficiency's business end-to-end, transforming data into actionable business insight, and developing insightful reporting and analyses.

In [ ]: