

# FIRST PUSH

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CSC 221 – Software Design





# INTRODUCTION

## **Motivation:**

Students often feel hesitant to start their application process for jobs/internships due to the lack of a resume.

## **Purpose:**

To reduce the concern of creating a resume, we have created an application that takes user input on personal information, school they're attending, their experience, etc. The app then organizes the information in a suitable format to create the user's resume.

## **Technologies used:**

- Python
- VSCode
- OpenAI API
- Libraries used:
  - Fpdf("Free PDF"): used to generate PDF documents
  - Tkinter: a sufficient toolkit used to create graphical user interface

# CONTRIBUTION TO KNOWLEDGE

## Frontend by Choezom

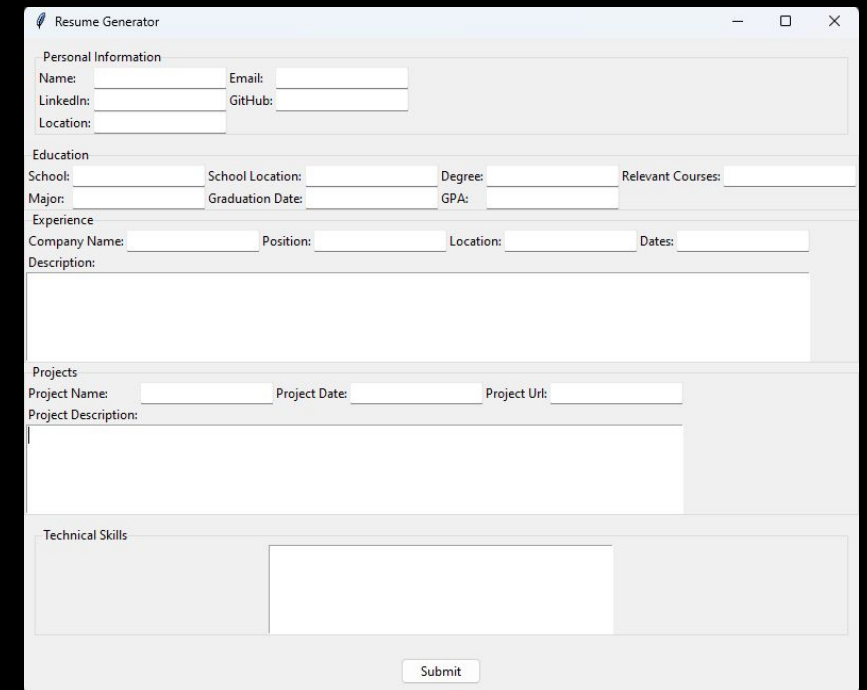
1. Import necessary libraries: tkinter is the standard GUI for Python
  - a. ttk is a module from tkinter that includes themed tkinter widgets.
2. Define the function `collect_data` that takes a callback function as an argument

A callback function is a function that receives input from another function. It's called after the first function completes its task.

3. Define the function `submit_data` inside `collect_data` function.

This creates a dictionary ('data') to store user-entered information into sub-categories.

Then calls the provided 'callback' function with the data.



The screenshot shows a window titled "Resume Generator" with a light gray background. The window contains several sections for user input:

- Personal Information:** Fields for Name, Email, LinkedIn, GitHub, and Location.
- Education:** Fields for School, School Location, Degree, Relevant Courses, Major, and Graduation Date.
- Experience:** Fields for Company Name, Position, Location, and Dates.
- Projects:** Fields for Project Name, Project Date, Project Url, and a large text area for Project Description.
- Technical Skills:** A large text area for entering skills.

A "Submit" button is located at the bottom right of the window.

# CONTRIBUTION TO KNOWLEDGE

4. Create the Main Tkinter Window with the title Resume Generator
5. Establish various sections of information needed for the resume with entry widgets and label
  - personal\_information: name, email, linkedin, github, location
  - education: school, major, location of school, degree, gpa, graduation date, relevant courses
  - internship\_info: company, position, location, date, description
  - proj\_info: name, url, date, description
  - skills\_info: prog\_languages, applications, os, design\_software
6. Create a submit button that calls the submit\_data function when clicked, positioned at the bottom of resume generator window.
7. Start Tkinter event loop 'root.mainloop()' that will keep the GUI running until user closes the window.

# CONTRIBUTION TO KNOWLEDGE

## Backend by Emir

1. Import libraries
  - import FPDF class from fpdf library → used to create PDF documents
  - import messagebox module from tkinter library used to display messages.
2. Define a custom PDF Class that inherits from FPDF
  - a. initialize the class with the '.\_\_init\_\_' method and it also calls the '.\_\_init\_\_' method of the parent class.
  - b. Adds an attribute 'user\_data' to store all user information needed for the resume.
3. Define Helper Methods in the class
  - a. form\_personal\_info
  - b. header
  - c. chapter\_title
  - d. chapter\_body

# CONTRIBUTION TO KNOWLEDGE

4. Define the function generate\_pdf
  - a. Takes user data as input
  - b. Creates an instance off the 'PDF' class
  - c. Add a page to the pdf and set the user data.
5. Add the data input by the user onto the PDF in order
  - a. Personal information
  - b. Education
  - c. Internship/Experience...etcFor each category, add a chapter onto the PDF and set the font and formatting.
6. Output the PDF and display a message indicating the successful formation of the PDF using messagebox imported from tkinter

ALBI ARAPI

[aarapi@ccny.cuny.edu](mailto:aarapi@ccny.cuny.edu) | [linkedin.com/in/albi-arapi](https://www.linkedin.com/in/albi-arapi) | [github.com/aarapi](https://github.com/aarapi) | New York, NY

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EDUCATION

CUNY City College of New York  
Bachelors of Engineering, Computer Engineering: May 2027  
GPA: 3.5

New York, NY

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INTERNSHIP EXPERIENCE

wefiwhfanfws

- fjesnbfsfbnskjfi iwefhn snfsckjfbwb fsebfwbfbw sbfjsfnsm mjeftksj fsefbkjsfe w ffkjw

- en kesjebfef sf ssmfc f sf swfbw fsfw bfse

efhuhiwiefdis

- jbebf fbfsfssb bsb sbjs ssfbd jfs m sef efj

- kjef sjksf sfksf s f skhfsef sfe sf sfkjsfe fskfne

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TECHNICAL SKILLS

Machine learning algorithms, SQL, Java, Python, C++

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RELEVANT COURSES

Software Design, Algorithms, Data Structures

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PROJECTS

CHATGPT

- skejfnfnskjdfniw wfjnsfkjef sksnfosefase sneklfnsef sljfsjefp wkckjfnfskfnof

- kje nfm fwf sefsocjef nf soejfowffos fsce foeff feof

- efb fsefhns fhocif swfise oih fw cw

Machine learning model

- ejkfbnkse jfe nfvabbwf fiwe ejkfjsfs j jfsf sf kfi

- ckjfb ssjfs sj sfs efs erggsdfg gdg sdfegsf sgs



# CONTRIBUTION TO KNOWLEDGE

## **enhance\_internship\_description & enhance\_project\_description**

These functions basically takes a user's internship/project experience and turns it into appealing bullet points that will describe their experience.

- Set your OpenAI API key
- Make an API call to gpt-3.5-turbo → Benefits are cheaper, faster, and meets the needs of program
- The input to the model includes a system message and a user message.
- Returns "enhanced\_description", which in this case is the description of the internship or the project in bullet points

**limitation:** max\_tokens = 150

- this is max length of the generated description output

# Next Steps

## 1. Multiple entries

Create a button that will add a new project/internship entry for the user every time it's pressed.

- the format of the entry should be the same as corresponding entry
- a finite number of additional entries allowed, possibly around 4 to keep one page resume

## 2. Bold

Stylize the PDF so that certain keywords can be bolded or italicized as needed.

example:

- technical skills

## 3. Job fitting resume

Make the application able to make the resume suitable to a job description.

- Incorporate Keywords
- Relevant Experiences

This might also mean allowing users to login and constantly add any new experiences or projects that they have taken part in.



# LITERATURE REVIEW

- Video to learn all about Tkinter in 5 hours.
- <https://pyfpdf.readthedocs.io/en/latest/>: Information on Python library FPDF
- ChatGPT/OpenAI as guidance to learn about any relevant or necessary information for the completion of the project.