

Evaluate the use of Artificial Intelligence (AI) and Natural Language Processing (NLP) to bridge the gap between security policies and employees in large enterprises.

MSc Research Project
MSc Cyber Security

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MSc Project Submission Sheet
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Module: Final Project

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Project Title: Evaluate the use of Artificial Intelligence (AI) and Natural Language Processing (NLP) to bridge the gap between security policies and employees in large enterprises.....

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1 Introduction

This is the configuration manual to install and run the Policy Pal developed as part of the final project of Lisa Brockman.

2 Minimum system requirements

Operating system: Windows 10 or 11

Memory: 8 GB

Disk Space: <200 MB

Internet Connectivity: Required

3 Pre-requisites

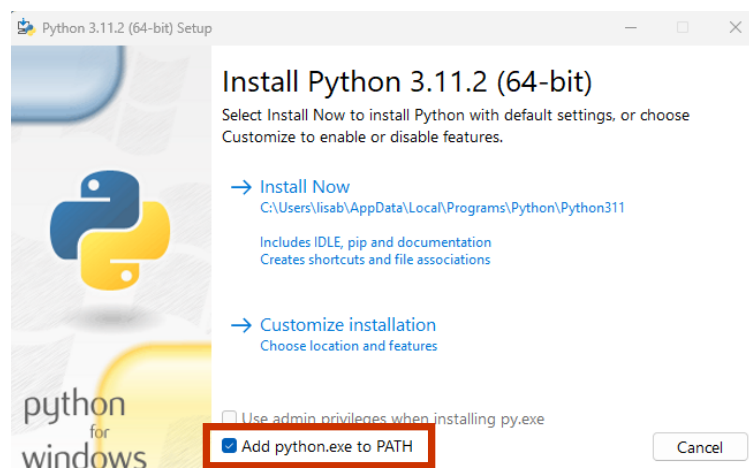
3.1 Install Python

Policy Pal requires version 3.11.2 of Python.

1. Download Python from: [Download Python | Python.org](https://www.python.org/downloads/windows/). Scroll to the bottom of the page and select the installer most appropriate for your system.

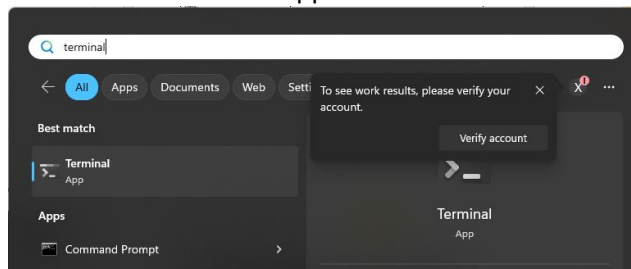
Files						
Version	Operating System	Description	MD5 Sum	File Size	GPG	Sigstore
Gzipped source tarball	Source release		f6b5226c3ba5ae1ca9376aaba0b0f673	26437858	SIG	sigstore
XZ compressed source tarball	Source release		a957c7fb58a89303b62124896881950b	19893284	SIG	sigstore
macOS 64-bit universal2 installer	macOS	for macOS 10.9 and later	e038c3d5cee8c5210735a764d3f36f5a	42835777	SIG	CRT SIG
Windows embeddable package (32-bit)	Windows		64853e569d7cb0d1547793000ff9c9b6	9574852	SIG	CRT SIG
Windows embeddable package (64-bit)	Windows		ae7de44ecbe2d3a37dbde3ce669d31b3	10560465	SIG	CRT SIG
Windows embeddable package (ARM64)	Windows		747090b80a52e8bbcb5cb65f78fee575	9780864	SIG	CRT SIG
Windows installer (32-bit)	Windows		2123016702bbb45688baedc3695852f4	24155760	SIG	CRT SIG
Windows installer (64-bit)	Windows	Recommended	4331ca54d9eacdb6e97d6ea63526e57	25325400	SIG	CRT SIG
Windows installer (ARM64)	Windows	Experimental	040ab03501a65cc26bd340323bb1972e	24451768	SIG	CRT SIG

2. Install Python, by running the setup file from your download location.
3. During installation, ensure the checkbox for “Add Python.exe to PATH” is checked as per the screenshot below.



Once the installation wizard has completed, verify the installation has been successful by opening a command prompt or Windows Terminal.

1. Open a command or terminal window, Windows Start, in the search bar type **Terminal** and hit enter to launch the application.



2. Once the application has launched, enter **Python**
3. If installation has been successful, the version will match that of the newly downloaded installer. If the response returned is not as per the screenshot below, re-install Python as per the previous step.

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\allison> python
Python 3.11.2 (tags/v3.11.2:878ead1, Feb  7 2023, 16:38:35) [MSC v.1934 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
```

3.2 Install required application files

Extract the provided application files to your computer, noting the folder location.

Note: You will need to use this folder location in subsequent steps, so a simple folder location is recommended.

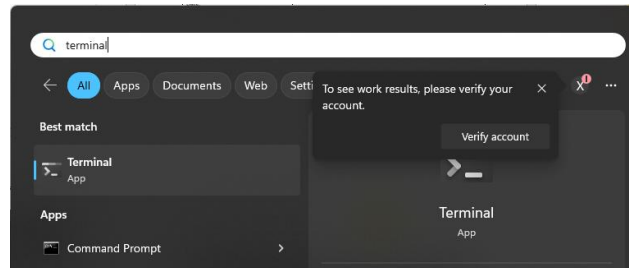
<input type="checkbox"/> Name	Date modified	Type	Size
docs	05/12/2023 21:43	File folder	
flagged	04/11/2023 19:03	File folder	
app.py	05/12/2023 21:32	PY File	2 KB
index.json	05/12/2023 21:42	JSON File	903 KB
requirements.txt	04/11/2023 19:16	Text Document	4 KB

3.3 Python component requirements

A requirements file is available within the folder to import the specific Python components and versions needed to run the Policy Pal.

To import this file into your Python environment:

1. Open a command or terminal window, Windows Start, in the search bar type **Terminal** and hit enter to launch the application.



2. Once the application launches, change directory to the directory in which you saved the application files in step 3.2.
3. Once in this directory, type the command **pip install -r requirements.txt** into the terminal window

4 Start the Policy Pal application

From a command or terminal window browse to the folder location created in Step 3.3.

Launch the Policy Pal application by entering the command **python app.py**

Once the application has started, the URL on which the application is running is displayed.

```
Command Prompt - python  x  +  v
C:\Final_Project>python app.py
INFO:root:> [build_index_from_documents] Total LLM token usage: 0 tokens
INFO:root:> [build_index_from_documents] Total embedding token usage: 66890 tokens
Running on local URL:  http://127.0.0.1:7860

Could not create share link. Please check your internet connection or our status page: https://status.gradio.app.
Keyboard interruption in main thread... closing server.

C:\Final_Project>python app.py
INFO:root:> [build_index_from_documents] Total LLM token usage: 0 tokens
INFO:root:> [build_index_from_documents] Total embedding token usage: 5462 tokens

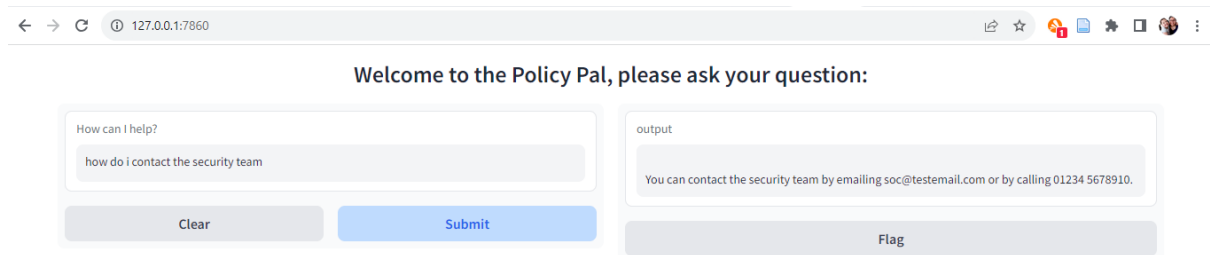
Thanks for being a Gradio user! If you have questions or feedback, please join our Discord server and chat with us: http
s://discord.gg/feTf9x3ZSB
Running on local URL:  http://127.0.0.1:7860
```

The application has been tested with Microsoft Defender Anti Malware – other AV products may detect and block the application, and may need to be temporarily disabled, and the application ran again by re-entering the command **python app.py**

A message is displayed within the Terminal where this is identified.

5 Launch the Policy Pal application

Open a browser and enter <http://127.0.0.1:7860/> in the browser window.
The Policy Pal application will be displayed.



The screenshot shows a web browser window with the address bar displaying `127.0.0.1:7860`. The page content is as follows:

Welcome to the Policy Pal, please ask your question:

How can I help?

how do i contact the security team

Clear Submit

output

You can contact the security team by emailing `soc@testemail.com` or by calling 01234 5678910.

Flag