Self-introduction 2026

Thank you for the opportunity to introduce myself. I am Alex, a skilled full-stack developer with 11 years experience in software development.

I graduated with a degree in Information Engineering and have strong expertise in JavaScript. I have solid experience in database design, web programming with HTML5, and using frameworks such as React.js and Node.js. Over the past year, I have focused on spatial data processing using Python and data visualization in GIS applications.

My projects include
1. refactoring and deploying forecast models on thunderstorm probability by blending nowcast and ECEPS for routine use in the AAMC portal and the 4DWxCube GIS app,
2. revamping GIS tools to plan dropsonde missions in collaboration with GFS,
3. developing 2 GIS applications, TC-FAST and AIRWISE, for estimating the risk and impact on tropical cyclones, to enhance aviation forecasters' decision-making and CAD operations.

These projects strengthened my ability to integrate meteorological data into user friendly visualizations and operational workflows, delivering effective support for air traffic management and airline operations under complex 3RS conditions involving hazardous weather.

With my programming expertise and hands on experience in meteorology applications, I am confident that I am a strong fit for the Analyst Programmer role.

[2025]
Hello, thank you for the opportunity to introduce myself. I am Alex, a skilled full stack developer with 10-year experience in software development.

I graduated with a degree in Information Engineering and have experience in various programming languages, especially in JavaScript. I have strong experience in database design, web programming with HTML5 and using frameworks like React.js and Node.js. In the past year, I have focused on data visualization in GIS mapping applications and spatial data processing in Python.

In my current job, I am responsible for developing and enhancing applications for flight path-based high impact weather displays. It involves implementing architectures to generate the raster data for the hazardous weather (sometimes as nc files), visualizing them as polygons in GIS mapping libraries like Leaflet.js as well as performing calculations on aviation hazardous weather encounters and statistics such as the derivations of the aircrafts for aviation users.

I have a solid foundation in both front-end and back-end development, which allows me to deliver comprehensive solutions effectively. My experience with data visualization tools has enhanced my ability to present complex data in user-friendly formats. I am also a good team player to ensure that projects meet technical requirements.

Due to my solid programming skills and closely related background, I believe that I am an excellent match for your position of analyst programmer.

Good:
Detail-oriented
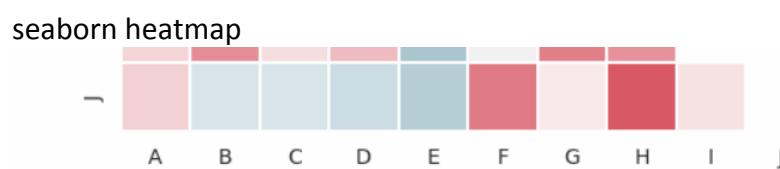
Bad:
Uncomfortable with presentation

6. NumPy

Numerical Python (NumPy library) takes your attribute table and puts it in a ==structured array==. Once it's in a structured array, it's much ==faster for any scientific computing==. One of the best things about it is how you can work with other Python libraries like ==SciPy for heavy statistical operations==.

7. Pandas

The Pandas library is immensely popular for ==data wrangling==. It's not only for statisticians. But it's incredibly useful in GIS too. Computational performance is key for pandas. The success of Pandas lies in its data frame. ==Data frames are optimized to work with big data.== They're optimized to such a point that it's something that Microsoft Excel wouldn't even be able to handle.

8. Matplotlib

When you're working with thousands of data points, sometimes the best thing to do is plot it all out. Enter Matplotlib. Statisticians use the matplotlib library for ==visual display==. Matplotlib does it all. It ==plots graphs, charts, and maps==. Even with big data, it's decent at crunching numbers.

seaborn heatmap

The darker squares, whether the darker red or darker blue, indicate pairs of columns that have higher correlation and may lead to collinearity. The easiest way to produce this plot is using the `DataFrame.corr()` method to produce a correlation matrix, and then use the Seaborn library's `seaborn.heatmap()` function to plot the values:

```
import seaborn as sns
correlations = train.corr()
sns.heatmap(correlations)
plt.show()
```

The example plot above was produced using a code example from seaborn's documentation which produces an correlation heatmap that is easier to interpret than the default output of `heatmap()`. We've created a function containing that code to make it easier for you to plot the correlations between the features in our data.

Dask 是一個靈活的並行計算庫，旨在輕鬆地處理大型數據集。它能夠使用多核心處理器和分佈式計算資源來加速計算，並且與 NumPy 和 Pandas 等流行的 Python 數據分析庫兼容。Dask 的核心特性包括：

- 构建任务计算图（Task Graph 将一个大计算任务分解为任务（Task 每个任务调用那些单机的 Python 包（比如 pandas 和 NumPy 作为执行后端。

- **延遲計算** Dask 支持延遲計算，允許我們構建一個計算圖，然後在需要時一次性執行所有操作，這樣可以優化計算過程，減少不必要的計算，並緩解內存壓力。

自動分塊: xarray 允許用戶在創建 Dask 數組時自動進行分塊（chunking 這意味著大數據集會被分成小塊，這些小塊可以獨立處理，從而提高計算效率。例如，用戶可以指定每個維度的塊大小，Dask 將根據這些設定自動處理數據。

1. 你如何在緊迫的期限下安排工作優先次序？

答題思路：

- **情境**：描述你曾經遇到 deadline 很緊的情況。
- **方法**：說明你如何先分析任務的重要性與緊急性，使用優先矩陣或分階段完成。
- **例子**：例如先完成影響最大的功能，再處理次要部分。
- **結果**：強調你能如期交付，並保持品質。

2. 請分享一次你在工作中遇到挑戰並成功解決的經驗。

答題思路：

- **情境**：挑選一個具代表性的挑戰（例如 GIS 工具需要重構，或數據集不一致）。
- **任務**：你需要解決什麼問題？
- **行動**：你採取了什麼具體措施（例如重構程式碼、與團隊協作、引入新方法）。
- **結果**：問題解決後帶來的成果（例如提升效率、改善可視化、支持航空運作）。

3. 你如何處理壓力或突如其來的變化？

答題思路：

- **方法**：先承認壓力是工作的一部分。
- **行動**：你會如何冷靜分析、重新排優先次序、與團隊溝通。
- **例子**：例如颱風任務突然需要加班，你如何調整資源並保持專注。
- **結果**：展示你能在壓力下保持穩定並交付成果。

4. 你認為航空氣象應用目前最大的挑戰是什麼？

答題思路：

- **挑戰**：例如「如何在 3RS regime 下處理低空和地面天氣的複雜性」或「hazardous weather 的不確定性」。
- **影響**：這些挑戰會影響航空安全、航班調度和決策。
- **延伸**：可以提到數據整合、可視化工具的重要性。
- **收尾**：強調你有相關經驗，能幫助改善這方面。

5. 你五年後希望自己處於什麼位置？

答題思路：

- **短期**：希望在 Analyst Programmer 職位上積累更多航空氣象和 GIS 經驗。
- **中期**：成為能獨立設計和領導項目的專業人員。
- **長期**：在航空氣象或數據可視化領域成為專家，能帶領團隊解決複雜問題。

6. 如何將 AI 應用到你的工作？

答題思路：

- **方向** AI 可以用於數據分析、模式識別、預測模型。
- **例子**：例如利用 AI 強化颱風路徑預測、hazardous weather 分類，或自動化 GIS 可視化。
- **價值**：提升準確性、減少人手分析時間，幫助 forecasters 和 CAD 更快做決策。
- **收尾**：表明你樂於探索 AI 技術並結合現有工作流程。