# Resume and Cover Letter Guide

## GW Data Science

# RESUME DO'S AND DON'TS

## DO'S

- **Page Length:** 1 or 2 pages (full pages are preferred, but if needed, you can have 1 1/2 pages).
- **Margins:** Top and bottom margins can be set at 0.5". Side margins should be around 0.8".
- **Font Size:** 10.5, 11, 11.5 or 12-point font preferred.
- **Fonts:** Garamond, Calibri, Cambria, and Georgia are preferable styles to Times New Roman. **Use only one font style.**
- **Be consistent with format:** If you use all capital letters for a section, do the same for all sections. If you write out dates using numbers instead of months, do that throughout. If you end bullet points with periods, make sure they all end that way.
- **Use a condensed style of writing:** Omit articles ("a," "an," "the").
- **Have spaces in between sections:** The employer needs to be able to read your resume easily.
- **Use Microsoft Word to draft and convert to PDF to submit:** Send with a clear title, e.g. "Resume, First and Last Name, Position Title".
- **Be factually accurate and error-free:** Make sure you can prove that any results you include, including percentages, are a **direct** result of your work.
- **Use key words** from the position description when tailoring for a specific opportunity.
- **Include your name, phone number, city and state, LinkedIn and GitHub addresses, and email.**
- **Use your judgment when including acronyms or abbreviations:** Don't assume that the reader will know what they stand for. If the job posting uses one then you can too.

## DON'TS

- **Use abbreviations unless necessary:** If used, specify what they stand for before using - e.g. Natural Language Processing (NLP).
- **Minimize your results:** Use strong action words and results-based accomplishments to highlight your achievements.
- **Include a message about "References available upon request" on your resume:** Hiring managers know to ask about your references if they need them.
- **Use first person on your resume:** Remove any use of "I," "me," "we," "our," or "my".
- **Use articles in your bullet points:** No "the", "a" or "an".
- **Use confidential data from former employers.**
- **Use graphics, photos, tables, or any odd formatting**: Resumes should be clear and easy to read, either by an ATS (Applicant Tracking System) or a person.

# First Name Last Name

Washington, DC | XXX-XXX-XXXX | name@gmail.com | linkedin.com/in/X | github.com/X

## EDUCATION

**The George Washington** University, Washington, DC
*Master of Science, Data Science* (GPA 3.75) Expected Dec 2025

- *Student Associations*: GW Data Science Student Association; GW Coders
- *Relevant Coursework*: Data Mining, Data Warehousing

**University of Virginia** Charlottesville, VA
*Bachelor of Science, Statistics* (GPA 3.85) May 2024

## PROJECT EXPERIENCE

Prediction of Fake Reviews Jan – May 2024

- Built automated system using Python to predict whether given review was likely to be from real user; led to reduction in "fake" reviews of 8%.

Product Recommendations Model Sept – Nov 2023

- Developed machine learning model to recommend restaurants to customers based on reservations history and browsing behavior.

## PROFESSIONAL EXPERIENCE

CRAZY COMPANY LLC, Alexandria, VA
*Data Research Intern* May – Aug 2024

- Cleaned and prepared raw datasets for 4 distinct projects with competing deadlines; brought all results in ahead of schedule.
- Monitored data quality for social media team, improving accuracy of engagement figures by 15%.

GW DEPARTMENT OF DATA SCIENCE, Washington, DC
*Machine Learning Teaching Assistant* Jan – May 2024

- Taught new graduate students various concepts in machine learning, explaining complex ideas through visualizations, lectures, and one-on-one advising sessions.

## TECHNOLOGY AND LANGUAGE SKILLS

Programming Languages: Python, R, MATLAB, C/C++
Data Management: SQL, MySQL, NoSQL(Dynamo, Redis, MongoDB), AWS, Google Cloud Platform
Visualization: Power BI, Tableau, HTML/CSS, Javascript, D3.js, Excel
Languages: Spanish, French

# FirstName LastName

Washington, DC • (XXX) XXX-XXXX • X@gmail.com • linkedin.com/in/X • github.com/X

Data Scientist with 5+ years of extensive experience leveraging BI technologies, big data, and machine learning algorithms to build predictive models and generate insights for healthcare-focused companies.

## PROFESSIONAL EXPERIENCE

**Happy and Healthy Corporation** • City, State (Remote) August 2022 - July 2024
**Senior Data Scientist**

- Developed solution for X using X technologies/tools, leading to X% improvement in X metric compared to existing methods; presented technique at local technology group event
- Deployed NLP microservice to perform X using X technologies/tools, effectively addressing user concerns and resulting in X% increase in X metric

**Insurance-R-Us** • City, State (Remote) September 2020 - August 2022
**Senior Data Scientist**

- Architected MLOps pipeline using X technologies/tools to orchestrate and monitor ML workflows, enhancing data science team efficiency by X% and achieving X% increase in ML workflow uptime
- Collaborated with cross-functional teams and stakeholders to transform X requirements into heuristics and innovative ML solutions for organization's X platform/product, leading to $X million increase in average revenue
- Spearheaded professional development event series, fostering continuous learning and skill enhancement within organization

**Doctors and Patients, Inc.** • City, State (Hybrid) January 2019 - August 2020
**Data Scientist**

- Developed pipeline using X technologies/tools integrated with X dashboard solution, leading to X% decrease in investigation time of X
- Applied data mining techniques using X technologies/tools to generate critical reports for medical staff
- Developed internal tool comprising X technologies/tools, streamlining X and expediting its integration into X

## EDUCATION

**MS, Data Science** • The George Washington University May 2024
**BS, Data Science** • The George Washington University May 2020

## LEADERSHIP & OUTREACH EXPERIENCE

**Organization A** • Washington, DC August 2023 - July 2024
**Director**

- Created X+ career navigation and technical event series, partnering with companies and local technology groups to boost community engagement

**Organization B** • Washington, DC April 2022 - July 2023
**Professional Development Lead**

- Led series of Python workshops that enhanced members' programming skills and technical knowledge

## TECHNICAL SKILLS

AWS, Bash, Docker, DuckDB, Git, GCP, Jupyter, Keras, Matplotlib, Microsoft PowerBI, NLTK, NumPy, pandas, Plotly, Polars, PostgreSQL, PyTorch, Python, R, scikit-learn, Seaborn, Selenium, spaCy, SQL, Tableau, TensorFlow, Transformers

# FirstName LastName

Arlington, VA | name@gmail.com | XXX-XXX-XXXX | github.com/name | linkedin.com/in/name

## EDUCATION

**The George Washington University** **Washington DC**
Master of Science, Data Science (GPA: 3.9) May 2024
Relevant Coursework: Machine Learning, Time Series Analysis and Modeling, Visualization of Complex Data

**Manipal Institute of Technology** **Manipal, India**
Bachelor of Technology, Electronics, and Communication (GPA: 8.75/10.0) August 2023

## TECHNICAL SKILLS & CERTIFICATIONS

- **Programming:** Python (Sklearn, TensorFlow, PyTorch, LangChain, llama-index), R, SQL, Bash, C++
- **Technologies & Tools:** Hugging Face LLMs, MLflow, Data Version Control, Kubeflow, Spark, Hadoop, GitHub, Azure – Databricks, Data Factory, ML Studio, AWS – Sagemaker, EC2, Microsoft – Power BI, Power Apps, Power Automate, SAS, MongoDB, Neo4j, Excel
- **Competencies:** Data Analysis, Statistical Modeling, Natural Language Processing, Deep Learning, MLOps
- **Certifications:** AWS Academy – Cloud Foundations & Natural Language Processing **(**Dec 2023)**,** SAS Certified Specialist – Visual Modeling (May 2023), Big Data and Cloud Training – Great Learning

## RELEVANT WORK EXPERIENCE

**The George Washington University (GWU)** **Washington DC**
**Data Consultant** **Jan 2023 - Present**

- Served as consultant to GWU's Libraries and Academic Innovation team providing Data Science (advanced statistics, Python, R, Machine Learning, Deep Learning) assistance to faculty, staff, and researchers.

**ABC Analytical Organization, Inc.** **Mumbai, India**
**Data Scientist** **Sept 2020 - Jul 2022**

- Served as Technical Lead in Image Recognition team with focus on marketing and sales; earned Superstar Award for Client Success by expanding engagement scope from 18 markets to 25.
- Accountable for enhancements to store analytics dashboards and service reliability, utilizing Microsoft Power Platform and Amazon Redshift; reduced resolution time of recurring known issues by 95%.
- Took initiative to deploy Data Integrity Dashboard resulting in 60% increase in proactive incidents, enhancing end-to-end operational efficiency.
- Optimized data ingestion process which improved Power BI workspace capacity by 40% and resulted in enterprise savings of $5,000 per month for premium expansion.
- Conducted training and resolved machine learning queries across engagements.

## TECHNICAL AND RESEARCH PROJECT EXPERIENCE

**Visual Question Answering (VQA) using Graph Neural Networks (GNN)** **Jan - May 2024**

- Compared VQA performance of image scene graph representation with GNN's, and multimodal fusion LLMs.

**Explainable AI (XAI) for Neural Network | Python** **Sept - Dec 2023**

- Deployed WebApp to evaluate robustness of Black-Box Neural Network Models for Image Classification. Utilized Python XAI (LIME) with no-code experience for enhancing transparency on model effectiveness.

**AI Literature Assistant Chatbot | Python** **Sept - Nov 2023**

- Leveraged open-source LLMs and LangChain to engineer WebApp-based chatbot assistant through RAG (Retrieval Augmented Generation) and interactive topic-modelling using BERTopic for AI research papers/articles.

**Custom Neural Network (NN) Optimization Library | Python** **Jan - May 2023**

- Implemented custom Neural Network class with several Optimizations for Backpropagation training to evaluate impact of input features, layers, activation functions, and learning rates on training performance.

**Weather Time Series Forecasting | Python** **Jan - Apr 2023**

- Conducted comparative analysis of forecasting models (ARIMA/SARIMA/Holt-Winters/LSTM) for daily average temperature; attained RMSE of 0.61 with LSTM; winner SARIMA model produced whiter residuals.

# FirstName LastName

Washington, D.C. 20003 | name@gmail.com | (XXX) XXX-XXXX | LinkedIn| GitHub

## Education

**George Washington University**, Washington, DC
*Master of Science, Data Science* expected May 2025
Relevant Coursework: Visualization of Complex Data, Data Warehousing, Data Mining
Activities: GW Data Science Student Association – Membership VP; GeorgeHacks Hackathon

**Brandeis University**, Waltham, MA
*Bachelor of Science, Computer Science* May 2023

## Relevant Work Experience

**American University**, Washington, DC
*Data Analyst,* Central Student Advising Office Jun 2023 - Present

- Created data visualization in Tableau comprised of over 100K records for institutional decision-making; managed annual survey data of over 3K students with Excel.
- Scripted ETL pipelines and automated reporting to dashboards for more efficient access to data with Python.
- Communicated technical updates to nine advising offices by leading bi-weekly technical group meetings and trained staff on new technical system features across five advising platforms remotely.

## Data Analysis Project Experience

*Fantasy Football Modeling (independent)* Feb – Apr 2024
Aggregated and prepped 5 years of NFL fantasy football projection data from 6 independent sources into MySQL database; improved winning record by 70%.

*Stock Analysis (academic)* Jan – May 2023
Conducted regression analysis to determine correlation between NYSE's price-to-earnings ratio to revenue growth. Cleaned data and accessed JSON endpoints for 20+ companies.

*Music Recommendation Engine (independent)* April – Aug 2022
Cleaned Apple Music data and used k nearest neighbors in scikit-learn to build music recommendation system. Saved average of 20 minutes on music selection relative to previous system. Build visualization in Tableau to demonstrate model's performance over time.

## Technical Skills

**Programming**: Python, R, SAS, HTML, CSS, JavaScript, Linux
**Databases**: Aurora, SQL, Mongo DB, Hadoop, DynamoDB, Microsoft Access, Neo4j
**Data Visualization**: Tableau, Google Data Studio, Quicksight, Matplot, Excel
**Python Packages**: Pandas, sklearn, numpy, nltk, spacy, pytorch, matplot, seaborn

# HOW TO FORMAT YOUR COVER LETTER

**Header & Date**

- Use the same heading in your cover letter as the one on your resume.
- Include the date on which you apply.

**Hiring Manager's Name and Address of the Organization**

- If possible, address the cover letter to a specific person or hiring manager. If not listed, try researching on LinkedIn. If you know or can find the name, use first and last name when addressing them.
- If you cannot find a name, address the cover letter "Dear Hiring Manager". Do **not** use "To Whom it May Concern" or "Dear Sir or Madam."

**Body**

- Introductory Paragraph:
  - Show enthusiasm by demonstrating knowledge of the organization, and by sharing a compelling reason(s) why you are well-qualified for the position. Additionally, if you were referred to the vacancy or have some other direct contact with the company, include the name of your contact in this first paragraph. Refrain from including information about where you found the vacancy announcement.
- Middle Paragraph(s) (number and length will vary based on experience/connection to the announcement):
  - Discuss how your background matches the qualifications and requirements of the position. Use specific, detailed, and concise language to demonstrate your value by describing what you've accomplished in the past. Use bullets where possible.
  - Use language directly from the job description and company website. This shows that you've done your research and would fit well with the company environment.
- Concluding Paragraph:
  - Reiterate your interest in the position, highlight the attributes you would bring to the employer if hired, and thank the employer for their consideration.

**Closing:**

- Close with "sincerely" (or a similar professional closing line) followed by your name.

Do not use GenAI to draft your letter for you. Employers are noticing that candidates are doing this and are not impressed. GenAI is helpful in making suggestions for ways to phrase ideas, recommending items from your resume to include, and identifying gaps between the letter and the resume/letter.

Cover letters take time and effort, since you cannot use the same letter (with minor tweaks) for each position. If you have limited time, you may want to prioritize which positions you care most about and expend the most effort on those letters. Not every position requires a cover letter, and it is not worth sending a generic letter, as it will not enhance your candidacy.

# First Name Last Name

**first.last@gmail.com ▪ 202-555-2370 ▪ Washington, DC ▪ LinkedIn ▪ GitHub**


September 5, 2023

First Name Last Name, Executive Director
Techie Company, Inc.
200 Z Street NW, Suite 5
Washington, DC 20036

Dear First Name Last Name:

My experience communicating complex data to non-tech audiences, coupled with my academic background in data analysis and my experience supporting business decision-making, inspired me to apply for the **Data Analyst Specialist** position at Techie.

My approach to data analysis is based on a deep understanding of the needs of each client. In my personal projects I have taken the initiative to search out real-world problems, research the needs of a potential client facing those challenges, and create solutions using complex data techniques that can be implemented in the real world. For example, I developed a face recognition model that can be used to predict whether a person is wearing a surgical mask, ensuring unmasked customers do not enter a client's place of business during an acute pandemic.

My business background has allowed me to understand how critical data-decision making is to realizing business goals. During my internship with XYZ Company, I reviewed visualizations created by the Data Analytics team and provided recommendations to senior leadership on how best to use the data to improve outreach to new customers. The company achieved growth of 20%, and I received feedback that my suggestions were a significant part of that result. This experience inspired me to pursue my Master's in Data Science, allowing me to fill a critical role of reviewing, analyzing, and communicating data in sophisticated ways that can greatly benefit companies.

Techie's Data Analyst Specialist position blends my long-held interest in communication, extensive academic background in data science and analysis, and background in business decision-making. I look forward to engaging in further conversations regarding this opportunity.

Sincerely,

First Name Last Name

# First Name Last Name

Washington, DC 20052 | (XXX) XXX-XXXX | first.last@gmail.com | LinkedIn.com/name | GitHub.com/name


June 12, 2024

First Name Last Name
Happy Health, LLC
22 J Street, NE
Washington, DC 20000

Dear First Name Last Name,

After speaking extensively with Jane Doe about her experience working with predictive modeling and advance machine learning algorithms at Happy Health, I am thrilled to apply for the position of Data Intern**.** With an academic background in statistical analysis, machine learning, and programming languages such as Python and R, I would be an immediate contributor to this position.

My Master's in Data Science program at George Washington University has given me outstanding training in applying data science skills to real-world data sets and developing innovative solutions. For example:

- **Fantasy Football Modeling**: I aggregated and prepped 5 years of NFL fantasy football projection data from 6 independent sources into a MySQL database; improving my winning record by 70%.

- **Stock Analysis**: I conducted a regression analysis to determine the correlation between NYSE's price-to-earnings ratio to revenue growth. I cleaned data and accessed JSON endpoints for 20+ companies.

- **Music Recommendation Engine**: I cleaned Apple Music data and used k nearest neighbors in scikit-learn to build a music recommendation system. I saved an average of 20 minutes on music selection relative to the previous system. I then built a visualization in Tableau to demonstrate the model's performance over time.

I look forward to learning more about how I can assist in meeting the immediate needs and long-term goals of Happy Health. I welcome the opportunity to schedule an interview and hope to hear from you soon.

Sincerely,

First Name Last Name