

Deepti Srivastava Tilly

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Dear Ms. Wood,

I am writing to apply for the Intern Conversion – Data Scientist position at IBM. With my quantitative, data-focused educational background (Ph.D. in computational chemical engineering, Springboard Data Science Career Track) and my experience as a strategy consultant providing high-impact solutions to client problems, I am confident I would be a valuable asset to your team.

- **PhD** - Through the computational nature of my PhD, I learned how to apply a variety of mathematical and statistical tools to solve complicated research problems. By creatively combining quantum mechanics with Monte Carlo simulations, I was able to resolve a research problem that had previously been unresolved in the field for over 15 years. My work was published in 2 research journals and highlighted as the cover feature on Langmuir. I also utilized Python to perform data cleaning, analysis and visualization on a multi-disciplinary Monte Carlo project, resulting in another publication showcasing novel, easy-to-understand visualizations of protein interactions relevant to the food science community. I welcomed every opportunity to share my scientific research with various audiences, presenting my work at 8 national and international conferences.
- **Springboard Data Science Fellow** - Having had prior programming, data analysis and statistical experience, I gained further expertise in new technical languages (SQL) and machine learning packages as a Data Science Fellow of Springboard's Data Science Career track (NLP specialization). To enhance my machine learning (ML) skillset, I have thus far worked on 2 end-to-end projects, utilizing a variety of ML and statistical techniques. In my latest project, I performed feature extraction from unstructured text data and utilized lexicon-based/ML tools to build a Twitter sentiment analyzer predicting the public sentiment around the 2020 presidential candidates. In my previous project, I incorporated feature selection, feature engineering, and outlier analysis to enhance the performance of regression/classification algorithms and develop a predictive model for movie success. Understanding the need for simple and interpretable solutions, I also applied Shapley values to allow for enhanced model interpretability by non-technical stakeholders.
- **Strategy Consultant** – As a strategy consultant, I worked closely with pharmaceutical and biotechnology companies on a number of high-profile projects, ranging from portfolio strategy to the commercial assessment of existing technology. Being in a client-driven role, I learned to not only focus on approaching problems from a business perspective but to also present findings to C-level executives in a clear, professional, and actionable manner. In my latest project, I was the lead consultant for a medical technology client, conducting extensive research on highly technical topics (gene therapy, cardiovascular diseases) to become the subject matter expert in 2-3 weeks. I led client-facing meetings with executives and medical experts, successfully recommending potential key targets for their technology.

An opportunity at IBM would not only help further develop my algorithmic skills but also drive my desire to leverage my technical and client-facing background towards an impactful, data-driven career. I would very much appreciate the opportunity to interview and discuss this position further. Thank you for your consideration.

Sincerely,

Deepti Srivastava Tilly

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Dr. Deepti Srivastava Tilly