

Dear Hiring Manager,

I am writing to express my strong interest in the Data Scientist position at your organization. As a data scientist with expertise in machine learning, statistical analysis, and computational modeling, I am excited about the opportunity to contribute to your data-driven initiatives.

My background combines strong analytical skills with practical experience in developing machine learning algorithms and statistical models. At ST Engineering, I implemented backpropagation-based sensitivity analysis using neural networks to optimize engineering models, achieving significant improvements in design efficiency. I have also applied decision tree learning to complex parameter analysis, demonstrating my ability to extract meaningful insights from data.

My experience at AMD provided valuable insight into machine learning applications for complex systems. I built generative adversarial network (GAN)-based surrogate models using PyTorch for engineering simulations, achieving 99.5% runtime reduction. This experience taught me the importance of developing robust ML solutions that can handle real-world engineering challenges.

My technical competencies include:

- **Machine Learning:** PyTorch, tinygrad, NumPy, SciPy, pandas, GANs, decision trees, deep learning
- **Statistical Analysis:** Probability theory, information theory, Bayesian methods, statistical modeling
- **Programming:** Python, C, MATLAB, Mathematica, statistical computing
- **Data Science:** Feature engineering, model validation, statistical significance testing, reproducible research

My academic background in Aerospace Engineering with specialization in Mechanical Engineering from NTU, combined with my analytical skills, provides me with a unique perspective on applying data science to engineering problems.

I am particularly drawn to this role because it offers the opportunity to apply my machine learning expertise while continuing to solve complex analytical challenges. I am committed to delivering data-driven insights and would welcome the opportunity to discuss how my background can contribute to your organization's success.

Thank you for your time and consideration. I look forward to hearing from you.

Sincerely,

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