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Dear Hiring Manager,

I am writing to express my strong interest in the Graduate Assistant position within the College of Business. As a current Master's student in Data Science and Analytics at SUNY Polytechnic Institute with two years of professional data analysis experience, I bring a unique combination of academic rigor, technical expertise in RAG systems and advanced AI, and practical industry knowledge that would be valuable in supporting both research initiatives and student learning.

Current Research and Technical Expertise:

In my current role as a Graduate Assistant at SUNY Polytechnic Institute, I am architecting advanced Retrieval-Augmented Generation (RAG) systems that have improved AI-driven information retrieval accuracy by 40%. I work extensively with Graph RAG architectures using Neo4j for multi-hop reasoning in large language model applications, and I design synthetic dataset generation pipelines for machine learning model training. My work involves engineering robust data pipelines using Python and cloud services, while collaborating on NLP research involving embedding techniques and semantic search optimization. This hands-on experience with cutting-edge AI technologies positions me well to contribute meaningfully to research initiatives and help students understand advanced data science concepts.

Professional Experience and Industry Background:

My two years as a Data Analyst at Stop-Not Services provided extensive hands-on experience with research methodology, statistical analysis using IBM SPSS Statistics, Python, SQL, and R, and translating complex analytical findings into clear, actionable insights. I successfully managed 15+ complete research projects, developed 10+ interactive dashboards using Power BI and Tableau that improved stakeholder decision-making by 25%, and maintained rigorous standards for data quality with 99.5% accuracy. My expertise extends to machine learning frameworks (TensorFlow, PyTorch, Scikit-learn), advanced prompt engineering, and integration of multiple LLM APIs for intelligent analytics solutions.

Technical Projects and Applied Learning:

I have developed several significant technical projects that demonstrate my ability to build end-to-end solutions. My DataFlow Intelligence Platform integrates multiple LLM APIs (GPT-4, Claude, Gemini) with Azure PostgreSQL and Streamlit for real-time streaming analytics and predictive insights. I also created a production-ready RAG Chatbot System using LangChain, Ollama, and ChromaDB that achieves sub-second response times across 50,000+ document vector databases. These projects showcase my proficiency in building scalable data platforms and implementing

advanced AI solutions—skills I can leverage to assist with research projects and guide students in their own technical development.

Teaching and Mentoring Potential:

Through my professional and academic experience, I have developed strong communication skills in explaining complex technical concepts to diverse audiences, from technical teams to non-technical stakeholders. My background in both theoretical research and practical application positions me well to help students bridge the gap between classroom learning and real-world data science applications. I am particularly enthusiastic about supporting students in understanding statistical modeling, machine learning workflows, advanced AI techniques including RAG systems and prompt engineering, and research methodology. My experience with tools like Tableau, Power BI, and various data visualization libraries enables me to teach students how to effectively communicate data-driven insights.

Contribution to College Goals:

I am eager to contribute to the college's research activities while supporting faculty in course instruction, laboratory sessions, and student mentoring. My experience with end-to-end project management, from research design to deployment and presentation, would be valuable in assisting with research projects, data collection and analysis, and helping students develop their own research initiatives. Additionally, my proficiency in multiple programming languages (Python, SQL, R), cloud platforms (Azure, AWS), database systems (PostgreSQL, Neo4j, ChromaDB), and modern AI frameworks would enable me to provide comprehensive technical support across various courses and research activities.

Commitment to Academic Excellence:

My decision to return to academia after gaining industry experience reflects my genuine commitment to advancing knowledge in data science and contributing to the academic community. I am dedicated to maintaining the highest standards of academic integrity while fostering an inclusive and supportive learning environment for all students. My dual perspective from both industry and academia allows me to bring practical insights while maintaining rigorous academic standards.

I would welcome the opportunity to discuss how my background in cutting-edge AI research, industry experience, and technical expertise can contribute to your college's success. I am available for an interview at your convenience and look forward to the possibility of joining your team.

Sincerely,

Ayush Chhoker