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## **BMW AG**

## **Application for Intern Al-based Recommender Systems Position**

As an MSc Data Science student at TU Braunschweig with hands-on experience building production recommender systems, I am writing to express my interest in the AI-based Recommender Systems internship position. My work developing agent-driven content recommendation pipelines that serve 500K+ monthly users has prepared me to contribute meaningfully to BMW Intelligent Personal Assistant development from day one.

- My recent work involved building autonomous recommendation systems for Instagram platforms that
  process user preferences and generate personalized content with 20x efficiency improvements. This
  experience developing scalable recommendation algorithms directly applies to creating personalized
  in-vehicle experiences that adapt to driver behavior and preferences.
- At TU Braunschweig, I developed FastAPI-based systems for biomedical research automation, handling real-time data processing with 94% accuracy in complex metric extraction tasks. This involved building robust data pipelines with async processing and state management—skills essential for integrating AI recommendations with vehicle systems while maintaining performance standards.
- My approach to ML development emphasizes end-to-end ownership, from model conception through
  production deployment using Python, Docker, and cloud infrastructure. I have implemented
  comprehensive evaluation frameworks and monitoring systems to ensure model reliability, which
  translates directly to the rigorous testing requirements needed for automotive AI applications.
- Through developing multi-agent architectures using LangGraph and LangChain, I have gained experience
  in building systems that make autonomous decisions while maintaining explainable reasoning paths. This
  background in agentic AI provides a foundation for creating sophisticated recommendation systems that
  can adapt to dynamic driving contexts and user preferences in BMW vehicles.

The opportunity to work on AI-driven personalization within BMW's automotive ecosystem represents exactly the kind of challenging, real-world application where my technical background can make a measurable impact. I am eager to contribute to the full development lifecycle while learning from BMW's approach to integrating AI into vehicle systems that millions of users interact with daily.

Warm regards,

Aditya Ghanashyam Ladawa