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Dear Hiring Manager,

I am writing with my deepest interest to apply to the **Oracle Software Engineering** Internship in **Database Technologies**. I am currently an undergraduate student at **Georgia Tech** studying **Computer Science**, with a specialization in **Intelligence** and **Modeling-Simulation**. I believe that my journey in Computer Science makes me an ideal candidate for the position.

Database optimizations have been at the core of my studies. I have gained exposure to Database Technologies through several different courses taken during my undergraduate journey. I have taken a Software Design class in which I learned about different kinds of databases (relational, non-relational, graph), as well as ACID guarantees provided by relational databases. During the class, I also extensively used SQL to improve my database-oriented application logic. Currently, I am taking High Performance Computing Architecture. In this class, I am learning about caching techniques to optimize retrieval, concurrent search techniques to reduce lookup time, and data structures for optimizing CRUD operations.

Currently, as part of my Research Internship, I am actively contributing to the Apache Software Foundation's Airavata MFT project. This project aims to simplify data retrieval from a distributed file system. I am using FUSE to develop a unified file I/O protocol which can interface with several different data sources. Furthermore, I am using concurrency-safe operations for maintaining consistency, as well as optimized networking using gRPC.

In 2023, I was a **Software Development Intern** at **Vitrina.AI**. This was yet another experience which solidified my database knowledge. At Vitrina, I worked on developing search algorithms that indexed several documents of unstructured text information. Then, I made use of cutting-edge database technologies like vector search and hybrid search to account for word embeddings and use semantic information to improve search results, combining traditional techniques like BM25 with KNN and HNSW algorithms.

In terms of database technologies, I have used **SQLite**, **MongoDB**, **DynamoDB**, and **ElasticSearch**. This exposure has given me insight into various different database design choices and the tradeoffs associated with them. Given my extensive knowledge of databases, I truly believe that I will make a strong impact at Oracle, improving performance, functionality, and security at each level of the stack. I would also value the exposure and mentorship I receive during the internship. Ultimately, I am truly honored to be considered for this position.

Thank you so much,

Sincerely,

Rohan Phadnis