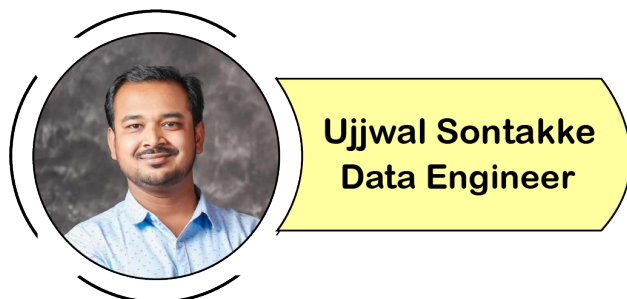# 20 Secrets to Optimizing SQL Queries
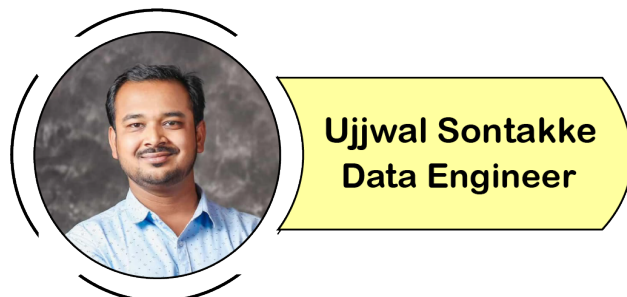
**Ujjwal Sontakke**
**Data Engineer**

# 1. Use Indexes Wisely

Indexes drastically speed up queries by letting the database quickly find specific rows. Focus on indexing columns used frequently in WHERE, JOIN, ORDER BY, and GROUP BY clauses.

But don't over-index—too many indexes slow down insert, update, and delete operations. Regularly review your indexing strategy for maximum efficiency.

```sql
-- Create a composite index for frequent filters on Status and CreatedDate
CREATE INDEX IX_Orders_Status_CreatedDate
  ON dbo.Orders(Status, CreatedDate);
```

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# 2. Avoid Select *

Always specify exactly the columns you need in your SELECT statement.
Retrieving unnecessary data wastes bandwidth and processing resources.
Fetching fewer columns results in faster queries and better server utilization.

```sql
-- Bad: SELECT *
SELECT * FROM dbo.Customers;

-- Good: only fetch needed columns
SELECT CustomerID, FirstName, LastName
  FROM dbo.Customers;
```

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