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# **Uni Distributed Systems Topics**

Topics for the distributed systems course at HdM  
Stuttgart

Felicitas Pojtinger

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# 1 Meta

## 1.1 Contributing

These study materials are heavily based on [professor Kriha's "Verteilte Systeme" lecture at HdM Stuttgart](#) and prior work of fellow students.

**Found an error or have a suggestion?** Please open an issue on GitHub ([github.com/pojntfx/uni-distributedsystems-notes](https://github.com/pojntfx/uni-distributedsystems-notes)):



**Figure 1:** QR code to source repository

If you like the study materials, a GitHub star is always appreciated :)

## 1.2 License



**Figure 2:** AGPL-3.0 license badge

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## 2 Topics

- I/O & Process Models
- Delivery Guarantees
- Replication, Consensus, Eventual Consistency, FIFO, Reliable Broadcasting
- Synchronization
- Correctness, Liveness, Complexity, Failure Modes
- Fan-Out Architecture
- Two-Phase Commits (2PC)
- Sharding, Partitioning
- Information and Distribution Architecture
- Concrete design proposal, e.g. Twitter (Scalability, availability, security)