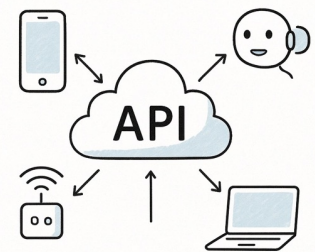


# Web Proxy Optimization and Caching of Future AI-Agent-driven Network Protocols

## Motivation

Communicating data is a driving force behind the digital economy—powering everything from web applications and IoT devices to next-generation AI-agents. The demand for fast, efficient, and sustainable data communication is growing exponentially, and innovative solutions are needed. With recent protocol announcements like MCP and A2A, a shift in network communication can be expected.

We are working on a startup project to build an intelligent web proxy for semantic API optimization. Leveraging cutting-edge research and state-of-the-art AI technologies, we offer a unique opportunity to actively shape a transformative solution.



Shaping the Future  
of API Communication

## Your Task

- Thorough related work analysis (papers, tools, approaches)
- Explore the requirements and peculiarities of the MCP and A2A protocol
- Investigate requirements and implement auto-generation of MCP [3] and A2A [4] servers/interfaces based on a (REST) API specification
- Investigate and implement a Web-Proxy Caching (e.g. with [1]) approach for these two protocols
- Find a good API to test approach (e.g. from [2])
- Evaluate cache statistics of proposed approaches

## Requirements

- Experience in full-stack development (react, Typescript), web caching, REST API design
- Motivation :)

## References

- [1] <https://www.fastly.com/documentation/guides/concepts/edge-state/cache/>
- [2] <https://openapisearch.com/>
- [3] <https://modelcontextprotocol.io/A2>
- [4] <https://google.github.io/A2A/>

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