THE UNIVERSITY OF CHICAGO
DATA SCIENCE INSTITUTE

Valuable data analysis is often isolated to a single hardware. Our 2025-autumn-mcp project aimed to turn isolated code into accessible services. By packaging our analysis tools into Model Context Protocol (MCP) servers, we created a standard way for AI assistants to integrate our work without rebuilding the underlying infrastructure.

Each member of the team built a separate MCP server that allows a host to perform the following tasks:

1) To address the challenge of interpreting market movements, this server develops a system that fetches news and price data, quantifies sentiment, and generates corresponding analysis, providing real-time insights into market behavior.
2) To address the limits of keyword search in large film archives, this server builds a semantic search pipeline that optimizes user queries with an LLM, retrieving films by thematic similarity combined with structured metadata filters.
3) To address the barriers in accessing foreign historical databases, this tool establishes a cross-lingual bridge to a federal API. It enables researchers to query in English, generating direct citations to primary source documents.
4) To address the lack of a centralized data repository, this server offers access to several disparate open-source datasets related to the Russian War in Ukraine and provides simple tools for exploratory data analysis.