




Jeffrey Tao

Full-stack developer interested in systems, the web, and how computers can empower human ingenuity.
Currently seeking full-time opportunities in the New York City area.

 GitHub — Speculative
 Website — jefftao.com
 LinkedIn — [jeffreystao](https://www.linkedin.com/in/jeffreystao)

Skills

Programming Languages

TypeScript
JavaScript
C#
Python
ReasonML
Java
C

Tools & Frameworks

React
MobX
Redux
Node.js
ASP.NET & .NET Core

Education

Columbia University

B.S. in Computer Engineering
Minor in East Asian Studies
Graduated May 2016
GPA - 3.55

Coursework

Computer Architecture
Operating Systems
Programming Languages & Translators
Computer Networks
Embedded Systems
Malware Reverse Engineering
Security Architecture & Engineering

Interests

Distributed systems
Programming paradigms
Human-computer interaction
Information security

Experience

I am a technical leader who seeks to acquire a broad and complete understanding of the systems that I'm working with. I am generous with sharing my knowledge and time to augment the work of others, and I believe strongly in collaborative design.

Microsoft – Outlook Web

Software Development Engineer II
August 2016 - Present

Data Sync Channel

TypeScript | C# | ASP.NET SignalR

Owner of the SignalR-based [server-pushed data synchronization channel](#) in Outlook Web. [Implemented complex client-server state management](#) and provided design and implementation guidance to peers developing new server-pushed data flows.

Driving modernization efforts including [multiple account support](#) (backend fan-out), [cross-tab connection multiplexing](#), and [embedding in other applications](#).

Timers Service

TypeScript | C# | Azure Service Bus

[Architect and lead developer](#) on a [microservice for scheduling network callbacks](#) to enable dependent services to create time-based scenarios. [Responsible for full project lifecycle](#) from architecture to production deployment and for onboarding of dependent partner teams.

Unified Notifications Service & UI

TypeScript | C# | React

[Architect of modern notification service](#) as a [stand-alone microservice](#) with [common UI across all Outlook clients](#) and the O365 Web suite. [Mentor for an intern](#) who successfully proved cross-platform UI code sharing. Negotiated with partner teams for this [cross-organization unification effort](#).

Outlook Web Beta Opt-In

TypeScript | C# | React | Script#

Owned a [high-stakes business scenario](#) to transition users from legacy client to modern rewrite which resulted in a [successful preview period and complete migration](#). Implemented [complex user opt-in state tracking](#), business-defined [conditional promotional UI scenarios](#), and opt-in metrics.

Personal Projects

In my spare time, I explore ideas in user and programmer productivity. I am interested in the mental models, interfaces, and metaphors through which we work with computers.

DecorumDB: Offline-first, client-side database

TypeScript | LevelUp | Socket.io

This project seeks to share database code across the server and client to enable [full feature fidelity when offline](#) and perform [automatic synchronization with the server](#) without an application developer needing to write network-handling code.

DecorumDB is based on principles in distributed systems and prior art in log-based database replication, replicated state machines, and Conflict-free Replicated Data Types.

Tools for People: Visual pipeline programming for non-programmers

TypeScript | React

Motivated by the need for non-programmers to accomplish repetitive tasks, this project seeks to implement a [visual pipeline programming and execution environment](#) with a focus on exploration, debuggability, and understanding. The environment employs [static type checking and structured editing](#) to alleviate common stumbling points for new programmers.