

# HONGTAO ZHANG

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## 🎓 EDUCATION

### University of Wisconsin Madison

Madison, WI, 12/2024

B.S. in Computer Science · Mathematics · Statistics · Data Science

GPA: 4.0/4.0.

*College of Letters & Science Honors in Liberal Arts*

*Deans List*: 2021 Fall/Spring, 2022 Spring

## 👤 EXPERIENCE

### Flow Launcher

10/2020 – Present

*Github Open Source Project* Core Contributor

- Github ★ increased from 180 to 2k+.
- Imposed **Producer/Consumer** Model with *Channel* to resolve *sync* over *async* and increase performance by 50%.
- Revised UI Batch Update Logic to significantly reduce response time by 99% for large scale of data (10000+).
- Resolved UI Blocking for Inter-Process Communication by implementing asynchronous streaming infrastructure.
- Reduced UI-Data-Logic Coupling by refactoring UI/Logic code based on *WPF MVVM* Pattern.
- Improved Program search performance by 500% with *MemoryCache*, and index speed by 200% by careful parallelization.
- Designed extendable Language Mapping API to allow cross-lingual fuzzy matching highlight.
- Constructed the Localization Process with *Crowdin* (translation contribution increase by 500%).
- Wrote detailed Plugin Development Guide for plugins in .Net family (C#, F#, VB.Net, etc.).
- Community Contribution: Answer Issues/Discussions, Review PRs, Draft Future Routes, Help Contributors, etc.

## 📁 PROJECT

### Flow.Plugin.WindowWalker

01/2021 – Present

*Maintainer*

- Developed a Opened Window Search Plugin based on *Flow Launcher* .Net plugin architecture.
- Implemented Quick Window Search with *MemoryCache* to allow customizable search pattern.
- Utilized *FuzzySearch* API from *Flow Launcher* to provide better and more integrated search experience to user.
- Achieved Localization based on Embedded Resources (Resx) file allowing resources isolation between plugins.
- Optimized Performances by removing unnecessary task based asynchronization by 15%.
- Supported Windows Virtual Desktop isolated/crossed search.

### VMWalk

06/2020 – 12/2020

*Full-Stack Individual Project*

- Developed a course evaluation platform that follows front-back separation pattern hosted on *vercel* and *Azure* respectively
- Implemented efficient and portable Data Access Layer using *Entity Framework Core* Code First Approach.
- Designed the BackEnd Restful API in (*ASP.Net Core*) and User Management System Based on *JWT* and *ASP.Net Identity*.
- Realized FrontEnd Acronym Fuzzy Pinyin to Chinese Search to allow fluent search experience without Chinese IM.
- Constructed Ajax Request to achieve dynamic page loading and reduce page loading time with *JQuery*.

## ⚙️ SKILLS

- **Programming Languages**: C#, F#, C, C++, Python, Java, JavaScript, R, Matlab, HTML, CSS,  $\text{\LaTeX}$
- **Framework & Tools**: ASP.NET Core, Blazor, WPF, Sql-Server, Vue.js, React.js, Node, Flask, Graphene, SQLAlchemy, Pandas, Jupyter, Axios, JQuery