MINGZHE (MING) XUE

Software Engineer / Software Developer
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PROFESSIONAL SUMMARY

Software Developer with experience building and enhancing enterprise applications using C#, .NET, JavaScript, SQL, and Python. Developed application workflows, web dashboards, data-processing pipelines, and API-integrated solutions in Agile and Azure DevOps environments. Experienced in debugging production issues, testing application changes, working with relational databases, and translating user requirements into maintainable technical solutions. Additional hands-on experience with Docker, retrieval-augmented generation, and AI-assisted development workflows.

TECHNICAL SKILLS

Languages: C#, Python, JavaScript, SQL, VB.NET, HTML/CSS
Software Development: .NET, MVC, Object-Oriented Programming, API Integration, Debugging, Testing, Git, Agile, SDLC
Databases & Data: MySQL, SQLite, Pandas, NumPy, SciPy, Scikit-learn, Jupyter Notebook
Tools & Platforms: Azure DevOps, Docker, SharePoint APIs, A-Frame, Three.js, RAG, Llama 3

EXPERIENCE

Associate Information Technology Analyst **May 2022 – July 2024**
Dow Chemical, Shanghai, China

- Led the refactoring of **WebEDMS**, an enterprise document management application supporting **150+ manufacturing plants** and **5,500+ users**, migrating legacy Windows file-share workflows to SharePoint-backed storage while preserving existing application behavior.
- Developed and maintained **C#/VB.NET and .NET application workflows** for document retrieval, including file-path parsing, SharePoint API integration, file-ID lookup, automated backup/download functions, and error handling.
- Improved document backup performance by approximately **70%** by redesigning and automating the retrieval workflow, benchmarking old and new implementations on identical data samples, and validating outputs against legacy storage paths.
- Implemented and supported **10+ enhancements and fixes** for the Dow Operations Dashboard, an MVC-style web application used for plant operations, reporting, task tracking, user activity, and access-controlled workflows.
- Used **SQL, MySQL, and SQLite** to investigate application behavior, validate data, troubleshoot failed records, test permissions, and support backend reporting and dashboard workflows.
- Worked in **Azure DevOps and Agile** to clarify requirements, implement and test application changes, track sprint work, coordinate with business analysts and vendors, document fixes, and support releases.
- Diagnosed and resolved **110+ production application issues** involving system behavior, data access, dashboards, and reporting, maintaining an average turnaround time under three days.

Research Assistant – Learning Analytics & Intelligent Systems **Nov. 2025 – Present**
UBC iSchool, Vancouver, BC

- Built modular **Python/Jupyter data-processing pipelines** for more than **45,000 behavioral events**, transforming raw application logs into validated analytical datasets and reusable model inputs.
- Implemented reusable preprocessing, feature-generation, similarity-analysis, clustering, and statistical-evaluation workflows using **Python, Pandas, NumPy, SciPy, and Scikit-learn**.
- Designed reproducible workflows with explicit intermediate outputs, validation checks, documented dependencies, and modular processing stages to support iterative experimentation and technical review.

Web Frontend Developer Intern **Aug. 2021 – Dec. 2021**
NEST Studio for the Arts, Boulder, CO

- Maintained and enhanced a public-facing website using **HTML/CSS and JavaScript**, improving UI/UX, accessibility, site structure, and maintainability.
- Developed an interactive VR gallery using **A-Frame and Three.js**, translating exhibition requirements into web-based interaction flows and reusable frontend components.

PROJECT

LLM-Powered Archival Q&A for Clio-X **July 2025**
Blockchain@UBC Blockathon for Social Good, Vancouver, BC *Team placed 2nd*

- Built a **Docker-based retrieval-augmented generation pipeline** supporting natural-language queries over heterogeneous archival datasets under privacy and compute-to-data constraints.
- Implemented preprocessing and retrieval workflows that produced structured JSON/CSV outputs and connected retrieved source records to a local **Llama 3** model for grounded question answering.
- Contributed to system design, semantic retrieval, data-processing logic, output validation, and technical presentation of the end-to-end prototype.

EDUCATION

University of British Columbia **Sep. 2024 – Apr. 2026**
Master of Library and Information Studies, GPA: 85.4/100 *Vancouver, BC*
University of Colorado Boulder **Aug. 2019 – Dec. 2021**
M.S. Creative Technology and Design, GPA: 3.758/4.0 *Boulder, CO*
Purdue University **Aug. 2014 – Dec. 2018**
B.S. Computer and Information Technology *West Lafayette, IN*