

# MINGZHE (MING) XUE

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## PROFESSIONAL SUMMARY

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Information science graduate student with experience in Python-based data analysis, UI/UX development, and technical advising. Combines analytical thinking with user-centered design to turn complex problems into clear, workable solutions. Brings industry experience, collaborative skills, and a growing focus on data-driven approaches in educational and digital environments.

## SKILLS

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**Programming & Tools:** SQL, Python (Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn, PyTorch, TensorFlow), JavaScript, Tableau, Power BI, Adobe Creative Suite, Git, Docker, MS Office Suite

**Analytics & Statistics:** Exploratory Data Analysis, Data Cleaning, Preprocessing, Feature Engineering, Statistical Analysis, Hypothesis Testing, A/B Testing, Data Visualization, Business Insights, Stakeholder Management, Critical Thinking, Problem-Solving

**Machine Learning:** Unsupervised & Supervised Learning (Clustering, Classification, Regression), Neural Networks (CNN, RNN, LSTM, Transformer), NLP, Model Selection & Evaluation, Cross-Validation, Hyperparameter Tuning, RAG

## EDUCATION

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### University of British Columbia

*Master of Library and Information Studies*

- Cumulative GPA: 3.92 / 4.33

**September 2024 - Present**

*Vancouver, BC, Canada*

### University of Colorado Boulder

*Master of Science in Creative Technology and Design*

- GPA: 3.758/4.0

**August 2019 - December 2021**

*Boulder, CO, USA*

### Purdue University

*Bachelor of Science in Computer and Information Technology*

**August 2014 - December 2018**

*West Lafayette, IN, USA*

## WORK EXPERIENCE

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### Research Assistant – Learning Analytics & Intelligent Systems

**November 2025 - Present**

*UBC iSchool, Vancouver, Canada*

- Designed and implemented a **Python-based learning analytics pipeline** to process and analyze **large-scale student interaction logs (50,000+)** from online learning platforms, improving data processing efficiency and reproducibility.
- Applied **unsupervised clustering (K-Medoids, Hierarchical)** and **sequence modeling** to separate learners into **5 behavioral groups**, identifying learner behavior patterns and engagement trajectories.
- Performed data preprocessing, feature engineering, and cross-validation using **Python (Pandas, NumPy, Scikit-learn)** for reproducible analytical workflows.
- Translated analytical findings into actionable insights for intelligent learning support systems, bridging learning analytics and system-level analysis.
- Built data visualizations and reporting dashboards using **Tableau** and **Matplotlib** to communicate analytical findings to technical and non-technical audiences.

### Associate Information Technology Analyst

**May 2022 - July 2024**

*Dow Chemical, Shanghai, China*

- Engineered the **WebEDMS system**, a document management system serving **150+ plants** and **5,500 users**, ensuring data reliability and system scalability.
- Delivered **10+ feature enhancements** for the DOW Operations Dashboard, improving usability and data accessibility for operational decision-making.
- Resolved **110+ user tickets** with an average turnaround time under 3 days, increasing **client satisfaction scores by 15%** in the annual DOW Voice feedback session.

### Web Frontend Developer Intern

**August 2021 - December 2021**

*NEST Studio for the Arts, Boulder, US*

- Redesigned and maintained the organization's website, improving **UI/UX** and content accessibility.
- Developed a **VR gallery platform**, enabling digital exhibitions and expanding audience reach.

## SERVICES

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### iSchool Peer Tech Advisor

December 2024 - April 2025

*UBC iSchool, Vancouver, Canada*

- Assisted students with data analysis workflows and Python troubleshooting when needed.
- Troubleshoot iSchool students solve technical problems around different coursework and projects
- Spearhead Technology in the core workshops, to help students build essential IT skills. Be responsible for workshop material preparations and tutorial video recording.

## PROJECTS

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### LLM-Powered Archival Q&A for Clio-X, Blockchain@UBC Blockathon for Social Good

July 2025

*UBC Blockthon, Vancouver, CA*

- Designed and prototyped an **LLM-based question-answering workflow** for **Clio-X** to support queries over Enron Emails and the Cameroon Official Gazette.
- Built a retrieval pipeline to preprocess heterogeneous archival datasets, structure source records, and support efficient semantic search for downstream Q&A.
- Adapted the solution to a containerized algorithm workflow for platform execution, including input validation, file handling, and serialized output generation.
- Developed the system under **privacy-preserving and low-compute constraints**, aligning the architecture with the compute-to-data principles of the Blockathon environment.

## CERTIFICATION

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- TCPS 2: CORE 2022 — 2025