Gloria Van Le

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EDUCATION

B.S. Data Science and Computer Science (major and minor)
University of Minnesota, Minneapolis, Minnesota, USA
Expected Completion: May 2026
GPA: 3.9/4.0 for major, 3.85/4.0 overall

AWARDS AND HONORS

1. Deans List, all 6/6 completed semesters, University of Minnesota
2. The Global Excellence Scholarship, all 7/7 semesters, University of Minnesota

RESEARCH INTEREST

Machine Learning, Time-Series Modeling & Forecasting, Representation Learning, Trustworthy AI (robustness, fairness, reliability), Large-Scale & Efficient ML

RESEARCH EXPERIENCE

Research Assistant — Minneapolis, MN, USA
Department of Industrial Engineering, U of Minnesota — 05/2025 - present
Supervisor: Professor Shancong Mou
Project: Predicting peak electricity consumption in HVAC systems

- The research aims to forecast and reduce peak electricity usage in heating, ventilation, and air conditioning (HVAC) systems. It is critical to address the peaks as they lead to increased energy expenses and place significant stress on the power grid. The project employs a hybrid approach by combining machine learning, industrial engineering systems and optimization to develop a data-driven model, with a focus on improving predictive modeling and decision-making in real-world environments.
- I contributed to data preprocessing, feature extraction, and exploratory data analysis using Python, NumPy, Pandas, and various statistical tools to ensure high-quality datasets for downstream modeling.
- I worked together with our lab's team in discussions of system constraints, modeling approaches and designs, evaluation metrics, and in implementing a deep-learning-based

Transformer Encoder model for supervised time-series forecasting.

- We evaluated our models on time-series data collected from healthcare and industrial systems, identified patterns and anomalies across different models. I also assisted with preparing and documenting our experimental results for the future presentations and papers.

Undergraduate Research Project Minneapolis, MN, USA
CSCI 5525: Machine Learning: Analysis and Methods Spring 2025
Course with Professor Paul R. Schrater
Project: Stock Behavior Prediction

- I partnered with another student to develop machine learning models for stock price prediction using historical market data from Yahoo Finance.
- Implemented models including Linear Regression, Decision Tree, SVR, Random Forest, and LSTM using Python, pandas, and PyTorch/TensorFlow.
- After comparing performance across all models, we found that the Random Forest Regressor achieved the best results in capturing nonlinear market patterns.
- Limitations: The models remained sensitive to market volatility and struggled with long-term forecasting. The dataset also lacked fundamental and macroeconomic features that could improve predictive power.

Undergraduate Research Project Minneapolis, MN, USA
IE 5533: Operations Research for Data Science Fall 2025
Course with Professor Krishnamurthy Iyer
Project: Netflix User Segmentation & Recommendation Project

- I partnered with another student to analyze the Netflix 2025 User Behavior Dataset (210k entries from Kaggle) and build clustering-based models for user segmentation..
- Implemented and compared K-Means, Hierarchical Clustering, and k-Nearest Neighbors to uncover viewing-pattern groups that could support more personalized recommendations.
- Examined watch-history and interaction features to better understand how users engage with content and how those patterns could inform recommender-system design.
- Results & Limitations: We identified several meaningful user groups (such as binge-watchers , critics, and genre-focused viewers), but cluster boundaries were sometimes unstable due to overlapping behaviors and missing contextual features.

Undergraduate Research Project Minneapolis, MN, USA

CSCI 4481: Computational Techniques for Genomics Fall 2025

Course with Professor Dan Knights

Project: Bioinformatics Parameter-Sensitivity Analysis with Bowtie2 - ongoing project

- I am collaborating with a team of four students to evaluate how key Bowtie2 alignment parameters affect accuracy and runtime on simulated and real genomic data.
- We are currently collecting and cleaning data, plan to generate simulated reads from reference and test genomes to measure precision/recall under different mismatch and alignment settings (local vs. semi-global).
- We are also working with large genome databases on MSI, setting up workflows to benchmark parameter choices and identifying configurations that balance speed and biological accuracy.

Undergraduate Research Project Minneapolis, MN, USA

STAT 4051: Statistical Machine Learning I Fall 2025

Course with Professor Kazeem Adepoju

Project: Hierarchical Clustering on Big Five Personality Data - ongoing project

- Applied agglomerative, divisive, and K-Means clustering to a Big Five Personality dataset (1,000 responses × 50 items) to investigate whether individuals naturally form distinct personality groups.
- Analyzed dendrogram structures, evaluated potential cluster solutions, and interpreted cluster characteristics using mean personality scores.
- Used silhouette scores and confusion matrices to assess cluster quality, finding weak and inconsistent group structure - suggesting personality traits are continuous rather than categorical.

TEACHING EXPERIENCE

Teaching Assistant Minneapolis, MN, USA

Department of Computer Science & Engineering, U of Minnesota 09/2024 - present

Course: CSCI 3041: Introduction to Discrete Structures and Algorithms

Duration: 3 semesters

Supervisor: Professor Mai Al-Khatib

- Support Professor Al-Khatib in a course of 70–80 students, assisting with lecture preparation and grading of assignments, quizzes, midterms, and finals.
- Teach core topics in Discrete Math (logic, proofs, combinatorics, recurrence relations, graphs/trees, DFS/BFS) and in Algorithms (sorting methods, BSTs, heaps, hash tables, shortest-path algorithms, Big-O complexity).

- Lead weekly discussion sections of 20–30 students, reviewing key concepts and guiding students through worksheets and problem-solving activities, helping students debug their programs in different languages (Python, Java, C++).
- Hold weekly office hours to support students with coding assignments, written proofs and exam preparation.
- Collaborate with other TAs to ensure consistent grading, proctored exams, and communicate common student difficulties to the Professor.

Teaching Assistant Minneapolis, MN, USA
Department of Mathematics, University of Minnesota 01/2025 - present
Course: MATH 1031: College Algebra and Probability
Duration: 2 semesters
Supervisor: Instructor Tomas Banuelos

- Attend all in-person lectures for a class of approximately 100 students, supporting the instructor and providing real-time assistance with precalculus concepts (functions, graph transformations, polynomial/rational models, exponentials, logarithms, and basic probability).
- Assist Professor in creating and grading homework, quizzes, and exams to evaluate student understanding.
- Offer individualized help during office hours and class activities, reinforcing key topics and addressing student questions.

Teaching Assistant Minneapolis, MN, USA
Department of Mathematics, University of Minnesota 08/2024 - 12/2024
Course: MATH 1151: Precalculus II
Duration: 1 semesters
Supervisor: Instructor Erik Mainellis

- Attended all in-person lectures for a class of approximately 120 students, supporting the instructor and assisting students with topics including trigonometric functions and identities, inverse trig functions, polar coordinates and graphs, complex numbers and DeMoivre's Theorem, conic sections, systems of equations/inequalities, and arithmetic/geometric sequences and series.
- Helped create and grade homework, quizzes, and exams to assess student learning and ensure alignment with course objectives.
- Provided individualized support during office hours and class activities, offering clarification and guidance to strengthen student understanding of key concepts.

SERVICE

Student Cultural Leadership 09/2023-05/2025

- Served as a board member of the Vietnamese International Student Association (VISA) at the University of Minnesota, helping organize cultural events, promote Vietnamese heritage on campus, and supporting international students through community-building activities and programming.

Cashier 02/2023-05/2024

- Provided community and customer service at Subway, Caribou Coffee, and MFoodCo, contributing to daily operations, assisting customers, and supporting team coordination in fast-paced work environments.

Volunteer 03/2020-06/2022

- Supported public-health "Health of Tomorrow" initiatives in Thai Binh Province during COVID-19 by assisting at quarantine centers, distributing essential supplies, disinfecting patient facilities, and helping coordinate Hepatitis B testing and vaccination events for underserved communities.

Charity 07/2021-05/2022

- Founded and led the charity project "Smile of Children". Collected books, clothing, and food through community donation drives and delivered them to local orphanage centers to support children in need.

REFERENCES

Shancong Mou

Professor at Department of Industrial Engineering, University of Minnesota

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Mai Al-Khatib

Professor at Department of Computer Science & Engineering, University of Minnesota

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Tomas Banuelos

Instructor at Department of Mathematics, University of Minnesota

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