CURRICULUM VITAE

GLORIA VAN LE

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EDUCATION

B.S. Data Science, University of Minnesota, Minneapolis, Minnesota, USA
Expected Completion: May 2026
GPA: overall 3.85/4.00

AWARDS AND HONORS

Deans List, all semesters: University of Minnesota
The Global Excellence Scholarship, all semesters: University of Minnesota

RESEARCH EXPERIENCE

Undergraduate Research Assistant
Department of Industrial Engineering, University of Minnesota
Minneapolis, MN, 05/2025 - present

Project: Predicting and minimizing peak electricity consumption in HVAC systems
Supervisor: Professor Shancong Mou

- Collaborating with Prof. Shancong Mou on research at the intersection of machine learning, optimization, and engineering systems, with a focus on improving predictive modeling and decision-making in real-world environments.
- Contributing to data preprocessing, cleaning, feature extraction, and exploratory data analysis using Python, NumPy, Pandas, and statistical tools to ensure high-quality datasets for downstream modeling.
- Supporting research involving sensor and time-series data collected from healthcare and industrial systems, including examining patterns, identifying anomalies, and evaluating model performance on real operational data.
- Assisting with the preparation of experimental results, documentation, and research workflows, and participating in discussions on modeling approaches, evaluation metrics, and system constraints.

TEACHING EXPERIENCE

Teaching Assistant
Department of Computer Science & Engineering, University of Minnesota
Minneapolis, MN, 09/2024 - present

Course: CSCI 3041: Introduction to Discrete Structures and Algorithms
Supervisor: Professor Mai Al-Khatib

- Supported Professor Al-Khatib in a course of 70–80 students, assisting with lecture preparation and grading of assignments, quizzes, midterms, and finals.
- Led weekly discussion sections of 20–30 students, reviewing key concepts and guiding students through worksheets and problem-solving activities.
- Held weekly office hours to support students with written proofs, Python programming assignments, and exam preparation.
- Collaborated with other TAs to ensure consistent grading, proctored exams, and communicated common student difficulties to the instructor.
- Taught core topics in Discrete Math (logic, proofs, combinatorics, recurrence relations, graphs/trees, DFS/BFS) and Algorithms (sorting methods, BSTs, heaps, hash tables, shortest-path algorithms, Big-O complexity).

Teaching Assistant
Department of Mathematics, University of Minnesota
Minneapolis, MN, 01/2025 - present

Course: MATH 1031: College Algebra and Probability
Supervisor: Instructor Tomas Banuelos

- Attended 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).
- Assisted in creating and grading homework, quizzes, and exams to evaluate student understanding.
- Offered individualized help during office hours and class activities, reinforcing key topics and addressing student questions.

Teaching Assistant
Department of Mathematics, University of Minnesota
Minneapolis, MN, 08/2024 - 12/2024

Course: MATH 1151: Precalculus II
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.

UNDERGRAD COURSE PROJECTS

CSCI 5525: Machine Learning: Analysis and Methods
Course with Professor Paul R. Schrater • Spring 2025
Project: Stock Price Prediction

- Partnered with one undergraduate student to develop machine learning models for stock price prediction using historical market data from Yahoo Finance.
- Implemented and compared Linear Regression, Decision Tree, SVR, Random Forest, and LSTM models using Python, pandas, and PyTorch/TensorFlow.
- Found that the Random Forest Regressor performed best in effectively capturing non-linear market patterns.

IE 5533: Operations Research for Data Science
Course with Professor Krishnamurthy Iyer • Fall 2025
Project: Netflix User Segmentation & Recommendation Project · Ongoing

- Partnered with one undergraduate student to work on clustering-based user segmentation using the Netflix 2025 User Behavior Dataset (210k records) from Kaggle to identify meaningful viewing-behavior groups.
- Explored K-Means, Hierarchical Clustering, and k-Nearest Neighbors to uncover behavioral patterns that can guide personalized recommendations and reduce user churn.
- Analyzed watch history and interaction data to support data-driven personalization and improve future recommender system design.

CSCI 4481: Computational Techniques for Genomics
Course with Professor Dan Knights • Fall 2025
Project: Bioinformatics Parameter-Sensitivity Analysis with Bowtie2 · Ongoing

- Collaborating with a team of four students to evaluate how key Bowtie2 alignment parameters affect accuracy and runtime on simulated and real genomic data.
- 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).
- Working with large genome databases on MSI, setting up workflows to benchmark parameter choices and identify configurations that balance speed and biological accuracy.

STAT 4051: Statistical Machine Learning I
Course with Senior Lecturer Kazeem Adepoju • Fall 2025
Project: Hierarchical Clustering

- Working in a team of five to explore hierarchical clustering methods and their applications; project newly assigned and currently in the initial planning and topic-scoping stage.

REFERENCES

Shancong Mou
Professor at Department of Industrial Engineering, University of Minnesota
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Professor at Department of Computer Science & Engineering, University of Minnesota
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