Grace Liu

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EDUCATION

University of Michigan, Ann Arbor   **Expected May 2027**

B.S.E. in Computer Science, Minor in Statistics   GPA: 3.95/4.0

- **Relevant Coursework:** Data Structures and Algorithms, Machine Learning, Web Systems, Computer Architecture, Linear Algebra
- **Awards:** University of Michigan Regents Merit Scholarship, University of Michigan Dean's Honor List, Engineering Society of Detroit's Outstanding High School Students of the Year Scholarship.

WORK EXPERIENCE

United Wholesale Mortgage   **May 2025 – Aug 2025**

Software Development Intern   Pontiac, MI

- Developed C# API endpoint to integrate with internal document management system to enable bulk document downloads by their IDs; wrote unit and integration tests using xUnit and Moq to validate functionality.
- Collaborated in an Agile team to design a database and build a full-stack web application using React, C#, and SQL that implements API logic to query SQL Server for failed document extractions and trigger retry services based on user input.

Dare Auto   **Aug 2024 – Sep 2024**

Data Intern   Plymouth, MI

- Reflashed 4500 Electro Hydraulic Power Steering system pumps to update internal software.
- Compiled and organized each pump's ECU Serial Number into one excel file using Powershell commands and built-in Excel tools.

PROJECTS & RESEARCH

The Michigan Daily Web Developer   **Jan 2025 – Present**

- Built an interactive, responsive React-based website with CSS animations inspired by Spotify Wrapped to highlight the end-of-school-year edition.
- Improved crossword puzzle editor for the Games section by adding functionality to create and publish 21x21 crosswords using Svelte.

Michigan Data Science Team   **Sep 2024 – Present**

- Developed multi-class image classification model to identify the make of a car from an input image using PyTorch and a ResNet-50 pre-trained model with 75% accuracy.
- Explore basics of convolutional neural networks, transfer learning, data augmentation, and PyTorch workflow model.

Power Outage Duration Prediction Model   **Mar 2024 – Apr 2025**

- Built a regression model using scikit-learn to predict power outage duration using weather, climate, and economic data, achieving a 21% improvement in RMSE over the baseline through feature engineering and regularization.
- Designed a robust machine learning workflow with data cleaning, one-hot encoding, conditional imputation, and cross-validated Ridge regression to tune hyperparameters.

Natural Language Processing Classifier   **Apr 2024**

- Utilized supervised machine learning model and OOP in C++ to code and train a Naive Bayes classifier to classify forum posts according to different labels with 87% accuracy.
- Write, design, and implement testing suite to ensure project passes different input conditions and edge cases.

CAMPUS LEADERSHIP

Instructional Aide - ENGR 101: Introduction to Programming   **Jan 2025 – Present**

- Teach 30+ students how to use MATLAB for data analysis, image manipulation, and plotting as well as C++ for implementing algorithms like binary search and Traveling Salesperson heuristics during 2-hour weekly lab sessions.
- Host weekly office hours to help students debug projects, reinforce course concepts, and answer homework questions.

Society of Women Engineers Spring Break Outreach Program   **Feb 2024 – Apr 2024**

- Enthusiastically taught 100+ high schoolers in Chicago area about UX/graphic design and how to use Figma to design custom profile cards.

SKILLS

- **Languages and Libraries**: C/C++, Python, C#, MATLAB, JavaScript, TypeScript, SQL, Pandas, NumPy.
- **Frameworks and Platforms**: React, Django, PyTorch, SQL Server, Svelte.
- **Other Tools**: Git, Figma, Microsoft Office (Word, Excel, PowerPoint, Outlook), macOS, Windows.