

# Danny Xu

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## EDUCATION

### University of Wisconsin, Madison

Madison, WI

*Bachelor of Science in Computer Science, Mathematics*

*Sep. 2023 - May 2025*

- **Awards:** Undergraduate Research Scholar
- **Current Coursework:** Programming III, Machine Learning for Engineers, Calculus III, Linear Algebra

### University of Minnesota, Twin Cities

Minneapolis, MN

*Transferred Institutions, Honors Computer Science, GPA: 3.96/4.00*

*Sep. 2022 - May 2023*

- **Awards:** Dean's List (2x), Presidential Scholar
- **Leadership:** App Developer Club Executive Officer, Science and Engineering Student Board Sub-Director

## TECHNICAL SKILLS

**Languages & Tools:** JavaScript, TypeScript, Java, C#, Python, SQL, HTML/CSS, Swift, Power BI, Unix, Azure

**Frameworks:** React JS, Next JS, Node JS, ASP.NET MVC, Entity Framework Core, SwiftUI

**Libraries:** Pandas, NumPy, Matplotlib, TensorFlow, Scikit-learn, ChakraUI, TanStack Query, HighChartsJS

**Certificates:** Supervised Machine Learning (Stanford), Programming Fundamentals (Duke)

**Coursework:** Algorithms and Data Structures, Machine Architecture

## EXPERIENCE

### CommScope

Shakopee, MN

*Software Engineer*

*Aug. 2023 - Present*

- Enhance and expand lab testing software from internship, with a focus on global deployment and efficiency improvements, leveraging **React**, **ASP.NET** and **Microsoft SQL Server**.
- Achieve a **20% boost** in build & deployment speeds by transitioning **Azure DevOps CI/CD pipelines** to YAML, by implementing parallelism and caching.
- Develop a **dynamic Power BI dashboard** for lab technicians, leading to data-driven insights.

*Software Engineer Intern*

*May 2023 - Aug. 2023*

- **Engineered a comprehensive full stack web app** for lab test analysis, utilizing React, Next.js, ChakraUI.
- Enhanced testing efficiency by 80%, saving over 600 hours annually by restructuring the lab storage/retrieval system, leveraging **EF Core**, **REST APIs**, **SQL Server** on the **ASP.NET MVC** backend.
- **Achieved a 400% speed increase** in website load times, optimizing code through multi-threading (parallelization), thread synchronization (concurrency), and micro-optimization.

### University of Minnesota - Aerospace Department

Minneapolis, MN

*Undergraduate Research Assistant*

*Nov. 2022 - May 2023*

- Engaged in a U.S. Air Force-sponsored project through the **University of Minnesota Small Satellite Research Lab**, focusing on the development of CubeSats for the EXACT & IMPRESS missions
- Strengthened low-level C++ communications protocols between the ground station and small cube satellites
- Conducted unit testing in Python to ensure accurate and efficient data transmission

## PROJECTS

### LeetCode Problem Tracker | *TypeScript, Node.js, MongoDB, React.js, ChakraUI, Next.js*

- Develop a **full stack** React web app (bootstrapped with Next.js) to create personalized LeetCode study plans
- Integrate the **SM-2 algorithm** to dynamically tailor problem difficulty to individual user performance
- Leverage Puppeteer for efficient web scraping, extracting problem details like titles, links, and topics
- Design and execute MongoDB schemas/models, ensuring seamless data management to store user progress

### Breast Cancer Detector | *Python, TensorFlow, Scikit-Learn*

- Developed a **breast cancer detection model** using logistic regression, achieving an accuracy of **83%**
- Utilized OpenCV for image preprocessing, leveraging resizing, grayscale conversion, and normalization for training
- Performed hyperparameter tuning using GridSearchCV to optimize the logistic regression model parameters, enhancing predictive performance, and employed Scikit-Learn for splitting data into training and test sets, and for standardizing the features using StandardScaler, contributing to the model's robustness

### Cash Register Counter | *Swift, SwiftUI, Testflight*

- Built an **iOS application** to expedite the counting of cash-registers, leveraging Swift and SwiftUI
- Amassed **30,000+** impressions and **5,000+** active user sessions by publishing the app on the Apple App Store
- Implemented MVVM Architecture to organize code development and improve code maintainability