

# Jiale (Leo) Dong

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## EDUCATION

### University of Minnesota -Twin Cities

Bachelor of Science in Computer Science

Expected May 2024

GPA: 4.0/4.0

### University of Minnesota -Twin Cities

Master of Science in Computer Science

Expected Dec 2025

## TECHNICAL SKILLS

Personal Site: [codingwithleo.com](http://codingwithleo.com)

**Programming Language:** C#, T-SQL, Python, Java, C, C++, JavaScript, TypeScript, OCaml, HTML, CSS

**Framework:** .NET, React.js, Next.js, PyTorch, Scikit-learn, Flask, NumPy, Pandas, Processing

**Tools & Libraries:** Git, Docker, Linux, SQL Server, Google Cloud Platform, Azure, MongoDB, Firebase, Jira, LaTeX, Pug, Shopify Liquid, Tailwind.css, Open3d, Kaggle

## WORK EXPERIENCE

### Software Developer Intern - Arkware, Inc

July 2023 - Present

- Led a dynamic SQL View Script Generation feature project using the .NET framework, C# and T-SQL. The design approach notably enhanced query performance and improved the efficiency of custom client functions by ~50%, this was achieved by implementing linked-node data structures to simulate lazy evaluation and seamlessly convert dynamic C# data types to static SQL data types.
- Collaborated with the testing team to reduce the QA testing process by ~25%, this was achieved through attention to detail and documenting user interaction errors.
- Constructed unit test and performance test scripts in SQL to facilitate decision-making between Scalar-Valued Functions and Table-Valued Functions, the results were crucial in evaluating and refining the program's design.

### Teaching Assistant - CSENG CS&E Administration

September 2022 - May 2023

- Conducted supportive and engaging lab sessions **5 hours weekly**, utilizing clear oral and visual demonstrations to deliver lab instructions while providing an inclusive learning environment.
- Assisted students in grasping the essential concepts and deepening their understanding by hosting office hours for **3 hours weekly**, both in person and remotely.

### Tech Support Services - Wilson Library

June 2022 - July 2023

- Facilitated multiple digital record search and maintenance projects, and implemented a robust web-scripting solution. The strategy significantly reduced the labor time for one project **from 3 weeks to 4 hours** of computer monitoring.

## PROJECT EXPERIENCE

Github: [github.com/leoDonger](https://github.com/leoDonger) | Portfolio: [codingwithleo.com/projects](http://codingwithleo.com/projects)

**On-campus Bathroom User Experience Rating Application** | *React Native*

Jan 2024 - Present

**Hand Posture Controlled Computer Vision Wheelchair** | *Next.js*

Oct 2023 - Present

- Utilized machine learning techniques to build an accurate hand postures detection system.

**Real-Time Harmful Social Media Post Detection Platform** | *Next.js, Cloud Functions, Firebase*

Sept 2023 - Dec 2023

- Conducted research on the limitations of Google Language API quotas to optimize the scalability of our application.
- Evaluated the trade-offs between Google's serverless functions and the edge functions offered by Vercel.

**Interactive Physics Simulations** | *Processing*

Sept 2023 - Dec 2023

- Developed multiple projects including a pinball machine game, cloth dynamics, and grid-based smoke simulation.

**Predictive Display for an Autonomous Vehicle** | *Python, Numpy, Open3D*

Sept 2023 - Dec 2023

- Implemented various 3D surface reconstruction techniques such as Poisson Surface Reconstruction and NKSR.

**Optimization for CNN Model (CIFAR-10 dataset)** | *Python, Pytorch, SkLearn*

Mar 2023 - Apr 2023

- Achieved a high prediction accuracy through batch normalization, residual blocks, augmentation, and fine-tuning.

**Interactive Uber Pickup Simulation Software** | *C++, JavaScript*

Jan 2023 - May 2023

- Developed a web-app simulating Uber delivery and featuring a 2D graphical representation of UMN campus.

**Heuristic Functions Research on AI agents** | *Python, NumPy, Pandas*

Mar 2023 - May 2023

- Improved the game success rate through experiments of testing the effectiveness of different heuristic functions.

**Automated Web Scraping System** | *Python, Selenium*

June 2022 - July 2022

- Implemented a system to review, analyze, and edit digital record data in the Alma library system.

## LEADERSHIP EXPERIENCE

**Mentor** - UMN International Buddy Program

Sept 2023 - May 2024

**Event Coordinators** - Computer Science Grad Student Association

Jan 2024 - May 2024

**Project Lead** - UMN Social Coding Club

Sept 2023 - May 2024

**Business/Corporate Relations Officer** - UMN Robotics Club

Sept 2022 - May 2023

**Student Manager** - M Dining

Sept 2021 - Dec 2021