# Shilong Wang

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## Educational Background

**University of Connecticut** Storrs, CT
Double Major in Computer Science | Electric Engineering Aug.2021-May 2026 (expected)
GPA: **3.74/4.0**
**Core Courses:** Data Structures and Object-Oriented Design, Algorithm and Complexity, Software Engineering, Computer Architecture, Systems Programming, Data Science, Cybersecurity Lab, Android Development, Functional Programming, Statistics, Linear Algebra, Calculus I, II, and III, and Probability

## Professional SKills

**Programming Languages:** Python, C++, Haskell, TypeScript, HTML,CSS, C, Kotlin, Assembly
**Frameworks/Tools:** Git, Docker, React, Node.js, Flask, MySQL, LaTeX

## Research Experience

**AI-Powered Bug Reproduction Research** Jan.2025–Present
Undergraduate Research Assistant | University of Connecticut

- Assisted in designing and developing an AI-driven system capable of interpreting natural language bug reports and automatically reproducing the reported software bug;
- Utilized NLP techniques such as tokenization, summarization and text modeling to parse and understand human-described software bugs;
- Improved the accuracy of bug reproduction 10% and reducing developer debugging time 80%.

## Selected Project Experience

**Pet Adoption Website – Full Stack** | Team Project 2024 Fall Semester
**Tools:** Python, React.js, TypeScript, CSS, Node.js, Docker, Restful API, Figma, Trello

- Developed a full-stack web application to help users adopt pets locally. Built using ReactJS with TypeScript for the frontend and Python Flask/ Node.js with MySQL for the backend;
- Implemented RESTful APIs for data communication and used tools like Docker containerization, Trello for Agile workflow, Figma for UI design, and Draw IO for database modeling. Employed CI/CD practices using YAML and Pylint for maintainable and testable code.

**Student Performance Prediction – Dataset Analysis** | Team Project 2024 Fall Semester
**Tools:** Python, Scikit-learn, Statsmodels, Random Forest, SHAP, Pandas, Matplotlib, Numpy

- Analyzed 6378 student records with 40 features to identify the key predictor of academic success. Built and evaluated Multiple Linear Regression and Random Forest models, achieving an R2 of 0.736 and an MSE of 5.53 using a reduced linear model. Tuned Random Forest hyperparameters, attaining a test MSE of 6.4 and identifying top predictors;
- Applied SHAP for model explainability, revealing strong interaction effects and feature importance. Delivered actionable insights for educators and parents to boost student outcomes.

## Working Experience

**Undergraduate Tutor** | Calculus and Statistics Aug.2022-May 2023
University of Connecticut

- Provide one-to-one and group tutoring sessions to provide guidance on Calculus and Statistics concepts and address individual academic needs;
- Maintained detailed progress records and collaborated with faculty to identify areas where students needed additional support;
- Improved 20+ students' overall grades and at least 15% on the exam grades.

## Leadership Experience

**TennisCat Club** | Taiyuan, China May 2024-Aug.2024

- Organized local tennis tournaments and events, handling logistics, promotion and scheduling;
- Coached players with a focus on fostering interest and enjoyment to build long-term engagement with tennis.