Teresa Nguyen

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Education

Yale University New Haven, CT

B.S. Mechanical Engineering + Minors in CS & Data Science | GPA 3.89/4.0 *Aug. 2023 – May 2027*

- **Relevant Coursework**: Data Structures & Programming Techniques, OOP, Computing for Engineers, Information Systems, Data Analysis, Multivariate Statistics, Discrete Math, Linear Algebra, Multivariable Calculus, Biomedical Research & Design, Physics (Mechanics, E&M)

Experience

University of California, Irvine | Biorobotics Lab Irvine, CA

Software Engineer Research Assistant *Apr. 2025 – Present*

- Designing **computer vision** pipelines using MediaPipe Hand Landmarker for real-time hand tracking in stroke rehabilitation tasks
- Building a full-stack web platform with **React** to deliver interactive proprioception games powered by webcam-based tracking for remote therapy

Yale School of Engineering & Applied Science New Haven, CT

Teaching Assistant | Computing for Engineers and Scientists *Sep. 2024 – Present*

- Mentor and tutor 100+ engineering students in **C**, **C++**, and **MATLAB**, providing guidance on object-oriented programming, memory management, and algorithm optimization

Medtronic | Surgical Robotics North Haven, CT

Machine Learning Engineer Co-Op *Aug. 2024 – Dec. 2024*

- Designed and implemented automated dashboards using **REST APIs**, **Power BI**, **SQL**, and **Python**, reducing manual effort by over 100 hours and significantly improving process efficiency
- Conducted Voice of Stakeholder interviews to identify issues and requirements for complaint and issue resolution
- Presented the project outcomes and technical solutions to a cross-functional team of 50+ members
- Authored a comprehensive 20+ page validation report for a surgical robot log analysis tool

Software Engineer Intern *Jun. 2024 – Aug. 2024*

- Developed a chatbot prototype for the Medtronic surgical robot utilizing **Large Language Models (LLMs)**
- Worked on the backend and enhanced log analysis tool effectiveness by implementing 15+ algorithms to debug surgical robot issues, collaborating within a **Scrum** team using **Agile Methodology**

Yale School of Medicine | Smart Medicine Lab New Haven, CT

Machine Learning Research Assistant *Jan. 2024 – Apr. 2025*

- Developed deep learning models, including neural networks, using **TensorFlow** and **Scikit-learn** to predict lung cancer risk, optimizing model performance through hyperparameter tuning and feature engineering
- Preprocessed dense clinical datasets, leveraging **Python** and **R** for data cleaning, KNN imputation, mean imputation, and normalization techniques to improve model accuracy

Projects

Mutual Funds Dashboard | GitHub | *Node.js, Angular, Java, REST API*

- Full-stack mutual funds application for Goldman Sachs that projects potential returns using market data. Front end designed using **Canva** and implemented in **Node.js** and **Angular**. Built the back end in **Java** and **REST APIs**

Lung Statistical Biopsy | GitHub | *TensorFlow, Keras, Scikit-learn, Python, R*

- Developed a lung cancer prediction model using KNN, neural networks, Naive Bayes, logistic regression, random forests, and cross-validation. Analyzed results using statistical metrics including F-statistic and AUC curves.

3D Solid Object Viewer | GitHub | *C++, Qt Framework*

- Developed a graphics application for visualizing and rotating 3D convex objects in 2D, supporting dynamic geometry input and user-controlled rotation

Technical Skills

Programming Languages: Python, C/C++, Java, R, SQL, HTML, CSS, TypeScript
Frameworks and Libraries: React.js, TensorFlow, Keras, Scikit-learn, Node.js, Angular
Tools and Platforms: UNIX, PowerBI, Google Analytics, Looker, Jira, Git, VSCode, Canva, CAD, SolidWorks