

Dianne Vincent

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EDUCATION

Stony Brook University, College of Engineering and Applied Sciences

Stony Brook, NY

Bachelor of Science, Computer Science,

Expected Graduation: **May 2025**

Wise Honors Program: Women in Science and Engineering

International Tutor Training Program Certification Level 1

Coursework: Software Engineering 1 & 2, System Fundamentals 1 & 2, Computer Networks, Machine Learning, Natural Language Processing, Data Structures Honors, Data Science, Object-Oriented Programming Honors, Finite Mathematical Structures Honors, Programming Abstractions, Analysis Of Algorithms Honors, Probability & Statistics

SKILLS & INTERESTS

Programming Languages: Python | Java | C | C++ | JavaScript | TypeScript | R | Matlab | SQL | Go

Database Management Systems: MongoDB | MySQL | NoSQL | PostgreSQL | SQLite

Frameworks & Libraries: PyTorch | TensorFlow | Keras | Express | Mongoose | MaterialUI | React

Tools & Technologies: Node.js | Nodemon | Git | HTML | CSS

RESEARCH & ACADEMIC PROJECTS

Decentralized File-Sharing App | CSE-416 | Stony Brook University, New York, USA

September 2024 - Present

- Collaborating with a 6-member team to develop a cross-platform blockchain-based desktop application for secure file sharing, using IPFS for decentralized storage and Bitcoin (btcd, btcwallet) for cryptocurrency integration.
- Leading frontend development using React and TypeScript to create a responsive and consistent user interface across macOS, Windows, and Linux, providing key features like user authentication, file upload/download, and transaction tracking.
- Created and configured Docker containers by writing Dockerfiles to package both the frontend and backend services, ensuring consistency in development and production environments. Utilized multi-stage builds to reduce image size and improve performance across different operating systems.
- Developed backend services using Go to handle blockchain-related functionalities, including wallet creation, transaction validation, and block rewards processing.

Bias Mitigation in AI and ML Models | Stony Brook University, New York, USA

August 2024 - Present

Research Assistant advised by Dr. Praveen Tripathi

- Researching cutting-edge deep learning techniques, such as adversarial debiasing, fair representation learning, and transfer learning, to mitigate racial and gender biases in large language models like GPT and BERT.
- Leveraging advanced frameworks like PyTorch, TensorFlow, and AutoML to detect and reduce bias in text and image models, ensuring more equitable AI outcomes.

Full Stack Web Application- StackOverflow Clone | CSE-316

October 2023 - Dec 2023

Developer of feature-rich StackOverflow clone using MVC architecture.

- Developed secure, scalable RESTful APIs using Node.js and Express, ensuring efficient handling of client requests and responses.
- Optimized data interactions with MongoDB using Mongoose for efficient schema modeling and management.
- Implemented password hashing using bcrypt, enhancing security by securely storing user credentials and protecting against unauthorized access.
- Designed and implemented a responsive UI using React with Material UI, HTML, and CSS. Enabled users to post, edit, and delete questions and answers, upvote/downvote posts, and search through questions dynamically. Utilized Axios for real-time client-server communication, ensuring smooth interactions.

WORK EXPERIENCE

Classroom Technology Assistant- Data Analytics | Division Of Information Technology SBU New York

June 2023 - Present

- Developed Python scripts utilizing libraries such as Pandas, NumPy, Matplotlib, and Seaborn to analyze the ticketing database, track yearly progress, and identify key trends.
- Implemented SQLAlchemy for efficient data querying and management, and automated data extraction, aggregation, and visualization to streamline the creation of annual performance reports.
- Train faculty and TAs on classroom media systems; use standardized processes to test and maintain classroom IT equipment.

Teaching Assistant & Course-Based Tutor | Computer Science Department SBU New York

Aug 2023 - Present

- Instructor for lab sessions for Object Oriented Programming in Java & Data Science in Python to review relevant algorithms, answer student questions as well as conduct 8 in-person office hours per week.