

# Romerico David Jr.

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## EDUCATION

**Bachelor of Science in Computer Science (3.94 GPA), Towson University, Towson MD** May 2026

- **Coursework:** Object-Oriented Programming, Data Structures and Algorithms, Web App Development, Calculus III, Ordinary Differential Equations, Linear Algebra, Discrete Math, Statistical Methods

## TECHNICAL SKILLS

**Programming Languages:** Java, Python, C++, HTML, CSS, JavaScript (Node.js), TypeScript, JSX/TSX, LaTeX

**Frameworks/Libraries:** Express.js, React.js, Angular, MongoDB, Bootstrap, NumPy, Matplotlib, pandas

**Databases:** MongoDB

**Developer Tools:** Visual Studio Code, Anaconda, Jupyter Notebook, Git, GitHub

## EXPERIENCES

### Towson University

Towson, MD

*Computer Science Peer Tutor*

Feb 2024 to present

- Provide drop-in tutoring up to 10 students every session in Java, Python, and C++
- Assist students with understanding the concepts and principles in data structures, algorithms, structured and object-oriented programming

### Towson University

Towson, MD

*Undergraduate Researcher in Federated Learning*

Aug 2023 to Jan 2024

- Leveraged Flower FL framework (TensorFlow) to conduct experiments
- Compared FL aggregation methods FedAvg, FedProx, and QffedAvg across varying types of model poisoning attacks during the data processing and model training stages

### Towson University

Towson, MD

*Research Intern*

June 2023 to July 2023

- 1 of 12 students chosen for the TIGURS summer undergraduate research program
- Utilized PyTorch, NumPy, pandas, Matplotlib, and scikit-learn to simulate feed-forward, convolutional, and recurrent neural networks using the MNIST and CIFAR-10 datasets
- Evaluated experiments based on Accuracy, Confusion Matrix, Precision, and Recall

## PROJECTS

### Personal Portfolio

July 2024

- Developed a personal portfolio website using React.js and TypeScript JSX (TSX)
- Styled the website with Bootstrap and Vanilla CSS
- Deployed the project on Netlify with a custom URL

### TU Campus Inquiry Project

June 2024 to July 2024

- Developed a full-stack web application with a REST API for students to submit requests and connect with Towson University counselors
- Utilized the MEAN stack, Bootstrap, and Nodemailer for email functionality

### Murder Mystery Interactive Storyline Project

May 2024

- Developed a text-based interactive game to solve a murder mystery, incorporating evidence collection and clue investigation
- Utilized Java to create the game, emphasizing object-oriented programming principles: Abstraction, Encapsulation, Inheritance, and Polymorphism

### Nonlinear ODEs and PDEs Equivalence Project

March 2024 to May 2024

- Researched the equivalence between nonlinear ordinary differential equations and linear partial differential equations in fluid dynamics
- Utilized Python and frameworks such as NumPy, SciPy, and Matplotlib for simulation and visualizations
- Developed papers and presentations using LaTeX

## INVOLVEMENT

### St. Francis Neighborhood Center

Baltimore, MD

*Tutor Volunteer*

Oct 2023 to Jan 2024

- Tutored 3<sup>rd</sup> grade students in math and reading
- Promoted a passion for learning to contribute to the educational and personal growth of the student

### Towson University

Towson, MD

• *Member, Software Engineering Club*

Sept 2022 to present

• *Member, Filipino Cultural Association at Towson University*

Jan 2023 to present